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We all want a garden shed like this... p84



WELCOME

Our cover star this issue is Samsung's eye-opening UE65JS9500 TV. Eye-opening because, as well as its curved design and 4K panel resolution (and £6,000 price tag, actually...), **it claims compatibility for incoming HDR (High Dynamic Range) content**, which will bring unprecedented contrast and colour finesse to your movies. HDR is an exciting development and one you should definitely keep your eye on, but certainly one not without its issues – see my column on p75 for more.

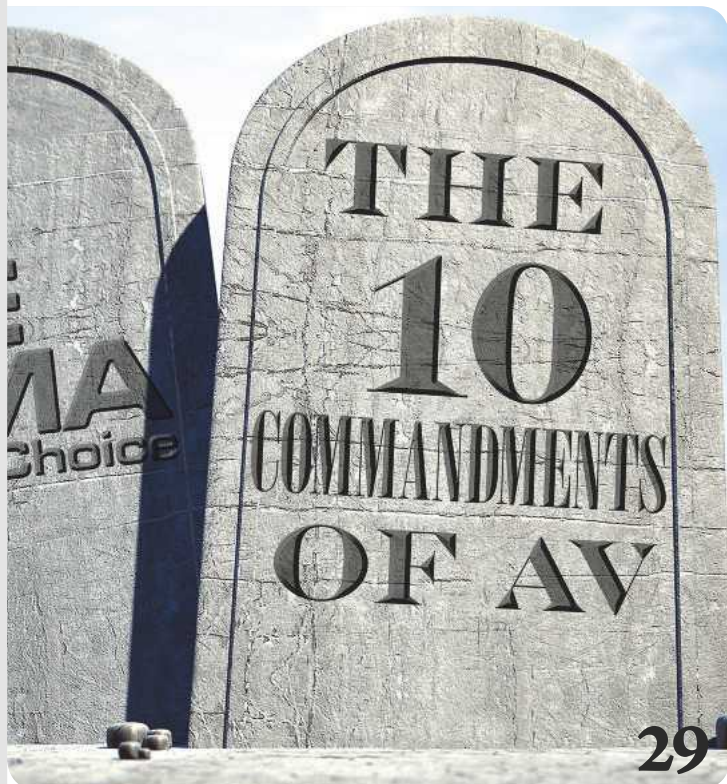


Elsewhere, inspired by Ridley Scott's *Exodus*, we've climbed the home cinema mountain and returned with our 10 Commandments of AV. Tech enthusiasts are often told to abide by specific rules and follow certain standards, but – as we all know – not everyone's setup, tastes or budget is the same. So what are the laws you must obey and which can you ignore with abandon? We reveal all on p29....

Mark Craven
Editor



MENU



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The UK's most experienced TV tester cut his teeth as an early HCC staffer



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WIN!
A Yamaha
YSP-2500 Digital
Sound Projector
worth £700!
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and the ability to deliver huge
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PR-SC5530
11.2-Channel Network A/V Controller



TX-NR3030
11.2-Channel Network A/V Receiver



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TX-NR838
7.2-Channel Network A/V Receiver



TX-NR737
7.2-Channel Network A/V Receiver



TX-NR636
7.2-Channel Network A/V Receiver



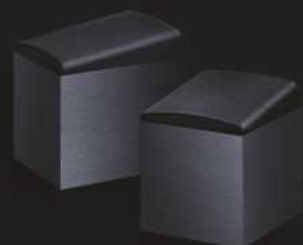
HT-S9700THX
7.1-Channel Network A/V Receiver/Speaker
Package



HT-S7705
5.1.2-Channel Network A/V Receiver/Speaker Package



"On the strength of the Onkyo TX-NR838, I predict the days of buying a non-Dolby Atmos-enabled AV receiver are drawing rapidly to a close. The future of home theatre begins here."
Steve May, Home Cinema Choice, December 2014



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Dolby Atmos-Enabled Speaker System

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BULLETIN

→ **News Highlights** **STEWART FILMSCREEN** Projector screen specialist adds LED bling to its latest model **PHILIPS** Brand preps first HDR screens for launch **SONY** PlayStation Now game service to begin UK testing **LG** TV manufacturer steers 4K and OLED into the mainstream **NEWS X10** The hottest news stories in bite-size chunks **EX_MACHINA** Provocative sci-fi arrives on BD & DVD in May **AND MORE!**

UHD on a budget

Philips 6400 UHD TVs → www.tpvision.com



TP Vision has taken the wraps off the first of the new Philips 4K/Ultra HD TVs that will be arriving in the UK this year. The 6400 series comes in 40in, 50in and 55in screen sizes, all equipped with Google's Android 5.0 Smart TV operating system. While UK pricing is currently TBC, the brand is promising 'moderate prices' that will suit 'all budgets', which is presumably why the sets feature neither Philips' familiar Ambilight technology or 3D playback support. For more on the company's 2015 TVs and its HDR plans, turn to p9.

HCC ONLINE...

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Sublime screen

Stewart Filmscreen LuminEsse → www.stewartfilmscreen.com



Academy Award-winning projection screen manufacturer Stewart Filmscreen debuted a new rigid front-projection wall screen system at the Integrated Systems Europe AV expo in Amsterdam. The LuminEsse wall screen is available in sizes up to 120in in 16:9 configuration and 128in in 21:9 CinemaScope, features an 'edgeless' design thanks to its less-than-10mm bezel, and can be supplied with any of the brand's 4K+ rated material. An optional LED backlighting kit is also available to provide bias lighting during extended viewing.

Decks appeal



Panasonic will be bolstering its lineup of Blu-ray players with five new models in 2015. At the entry-level side of things are the compact DMP-BD83 and DMP-BDT165, the former a Full HD 2D deck, while the latter adds 3D playback. After this comes a trio of 4K upscaling players – the DMP-BDT170, DMP-BDT270 and DMP-BDT370 (pictured). All three boast full DLNA functionality, with the '270 adding built-in Wi-Fi and Miracast, and the '370 also supporting 4K JPEG playback and 2D-3D conversion. www.panasonic.com/uk

Best of British bass



Essex-based subwoofer specialist BK Electronics has announced the arrival of its latest model. The Platinum P12-300B is available in both front- and downward-firing incarnations and boasts a 300W RMS amplifier and 12in driver in a sealed enclosure. Available in a choice of 10 finishes, the P12-300B also includes an Auto On function and makes use of BK's usual input and control configuration, which allows connection to hi-fi and AV systems simultaneously and the ability to utilise 'Pure Direct' modes. www.bkelec.com

An AV love affair



Never one to shy away from bringing an extra touch of style to its AV kit, Bang & Olufsen has launched a new 'Love Affair' collection to celebrate its 90th birthday. Harking back to the luxury, glamour and exuberance of the 'Roaring Twenties', the celebratory collection sees six of the Danish brand's most popular products redesigned in rose gold – including the BeoVision Avant 85 4K TV (prices starting at £18,200), the BeoVision 11-46 Full HD TV (£5,500) and the BeoLab 18 wireless speaker (£5,250 per pair). www.bang-olufsen.com

Philips demos HDR screens

While Android TV platform is great for gaming, don't expect catch-up

Philips has confirmed that it will ship its first HDR-capable 4K TVs this autumn. According to Danny Tack, Director of Product Strategy and Planning, the next-gen sets will support Open Standard HDR (High Dynamic Range), compatible with Ultra HD Blu-ray, and additionally offer proprietary HDR emulation from any source.

Speaking at a product preview in Barcelona, Tack suggested that Netflix and other streaming services will also support Open Standard HDR. 'I have a feeling that all OTT providers will go Open Standard, and some will at the same time, or later, add an extra standard on top.' It could be some time before we see broadcast HDR, though, admits Tack: 'I don't expect HDR broadcasts to begin before 2017.'

Demonstrations of prototype 8 and 9 Series screens at the event proved impressive. The former will be an edge-lit 4K model, the latter with a full-array backlight. Philips declined to specify the brightness of either HDR prototype.

Intriguingly, Philips says both will offer HDR-like performance from regular non-HDR encoded content, using its own Bright Pro screen technology. A demo revealed a convincing image boost over



Danny Tack: 'I don't expect High Dynamic Range broadcasts to begin before 2017... What we have here is a first step in HDR'

current screens using just regular HD sources. 'What we have here is a first step in HDR,' explained Tack.

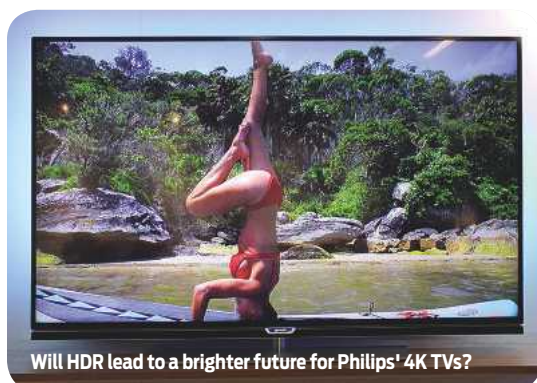
While Philips appears to have its HDR roadmap in place, it has yet to confirm plans for wide colour gamut displays: 'We need to analyse our options,' commented Tack. 'I can't confirm what we're going to do. If you look at Quantum Dot, that has a manufacturing cost of \$250 per square metre sheet, which goes some way to explaining why certain competitor screens are doubling in price. The wide colour blue LED approach favoured by Sony and Panasonic is probably a better compromise between performance and cost...'

Playing with Smart TV

One thing is certain, though: all Philips connected screens launched in the UK this year will use the Android Lollipop platform. At the European unveiling of its new screens, Philips suggested gaming was a key advantage of Android. It's partnered with EA and Gameloft to develop titles, and will offer access to a selection of cloud-based games from OnLive, as well as the Google Play store. Android sets will come with between 8 or 16GB of internal memory.

The company also envisages Android TVs working as a central hub for Smart Home applications, using UK-developed MyLiveGuard middleware. By way of example, the brand showed how a Nest Smart thermostat could be controlled via an Android TV.

Philips did, however, concede that as yet it had no UK catch-up services for the new platform, and that Netflix 4K would be missing from incoming UHD screens at launch, as it was awaiting development of a 4K Netflix client by Google.



Will HDR lead to a brighter future for Philips' 4K TVs?

PLAYLIST...

Team HCC spins up its disc picks of the month

The Babadook (Region B BD)



We just can't get enough of this smart and scary psychological chiller, and the Blu-ray's gloomy visuals and brooding lossless audio are the icing on a terrifying cake.

Nightcrawler (Region B BD)



This savvy media thriller certainly looks the part on Blu-ray thanks to a pristine 1080p encode. And the disc's fascinating chat-track more than justifies revisiting the platter.

Clown (Region B BD)



Everybody knows that clowns are inherently terrifying – but this gleefully gory fright flick pushed our coulrophobia to the absolute limit.

Eskimo Nell (All-region BD)



The best of the British sex comedies that proliferated in the '70s, *Eskimo Nell* offers a witty glimpse into the world of low-budget filmmaking.

Hostages (R2 DVD)



Warning: once you start watching you'll find it impossible to turn off this gripping 10-part Israeli thriller.

EXTRAS...

Small items that could make a big impression

The Avengers Vault



With *Avengers: Age of Ultron* arriving at cinemas soon, book shops are full of tie-in releases. Written by comic book scribe Peter A. David, this hefty tome focuses too heavily on *Captain America*, *Iron Man*, *Thor* and *Hulk* to the exclusion of other characters, but provides the perfect primer to the original Marvel comics for fans of the films.

Ultimate Collector Series LEGO TIE Fighter



Due to hit stores in May priced at £170, this spectacular LEGO version of the iconic *Star Wars* space fighter is made up of 1,685 bricks, stands 19.5in high and comes with its very own display stand and TIE Fighter Pilot minifigure.

MIPOW Playbulb Colour



MIPOW has added some colour to its Playbulb concept, with the app-controlled Bluetooth LED lightbulb now available in a Colour iteration with user-definable hues. It's priced at £80. Up to six bulbs can be linked together for whole-house fun. A speakerless version – the Rainbow – costs £30.

Sony paves way for PS Now

Games streaming service to get UK private Beta launch this Spring

Sony Computer Entertainment (SCE) has announced that it will be starting a private Beta trial of its PlayStation Now gaming streaming service in the UK in the coming months, and has asked PlayStation 4 owners with a PlayStation Plus membership to register their interest.

PlayStation Now, or PS Now, is a cloud-based streaming platform that offers classic PS3 titles. The service has been available in Beta form in North America since last year, and offers over 150 titles for gamers to pull through their broadband pipe.

The current pricing strategy in the US is two-tier. Users can choose between a monthly all-you-can-eat subscription for \$19.99 (\$44.99 for three months) or one-off fees per game, with individual titles rented at anything from \$1.99 for four hours or \$14.99 for three months. No UK pricing (or indeed a full launch date) has been confirmed. During the private Beta phase the service will be free.

Initial titles available in UK are scheduled to include many familiar to die-hard console junkies, such as *Uncharted 2: Among Thieves*, *The Last of Us*, *Far Cry 3: Blood Dragon*, *Saints Row: The Third – The Full Package*, *Just Cause 2* and *Dirt 3*, although SCE admits they might not represent those offered once PS Now is fully launched. We guess that's the point of Beta testing.

Original PlayStation and PS2 titles may eventually follow to please retro gamers.

Compatible devices

The service, once it is officially unleashed, is earmarked for availability via Sony's PlayStation 4, PS3, PS Vita, the PlayStation TV set-top box and



The cloud-based PS Now service will stream classic PS3 titles like *The Last of Us* (pictured)



Bravia TVs. Samsung flatscreens are also in line to offer support. All that's needed is a DualShock4 or

DualShock3 wireless controller and a recommended 5Mbps internet connection.

It should also find its way into some of Sony's Blu-ray players. Sony UK told HCC that PS Now would be made available to 2015 decks via a firmware update when it is launched.

'PS Now will put epic adventures, iconic characters and incredible PS3 games at the players' fingertips, allowing them to play immediately without needing to wait for downloads, updates or installs or make a trip to the shops,' says SCE UK.

Non-PlayStation Plus members wishing to be part of later phases of the Beta trial can also register their interest at www.playstation.com/psnow, and will be sent more information at a later date.

Soundbars with style set for shop shelves

Sony springs into action with two sleek new soundbars and a soundbase

Sony has announced a trio of new AV products due to hit the UK this Spring, all aiming to beef up flatscreen TV audio and inject some glamour at the same time.

The low-profile HT-CT780 soundbar (pictured) caters for TVs sized 46in and above and promises a total power output of 300W from its 2.1-channel design. Priced around £330, the soundbar packs three HDMI inputs with HDCP 2.2 support (allowing 4K passthrough), Sony's S-Front PRO Front Surround audio processing and Bluetooth streaming with NFC for one-touch listening via compatible devices.

Sony's second soundbar, the £300 HT-SC380 is similarly specified, but is designed for screens under 46in, is wall-mountable and drops the support for 4K passthrough.

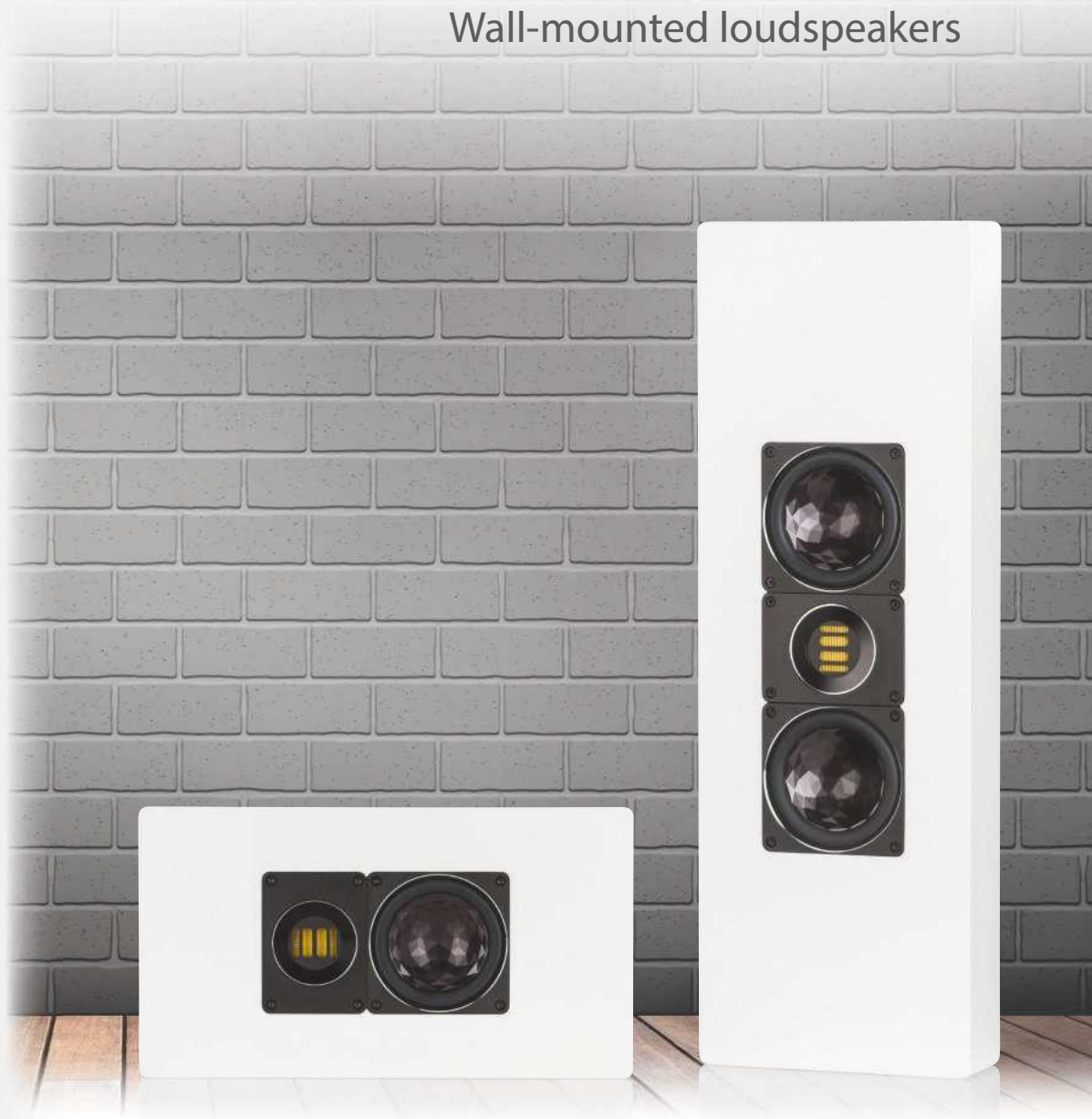
Finally, there's the HT-XT100 soundbase, which will retail for £180. Like the new 'bars' it's yet another 2.1-channel system – albeit with an integrated 80W subwoofer handling bass duties. It also includes a 'Voice' mode designed to make dialogue clearer.



On-wall

Turn the music on-wall

Wall-mounted loudspeakers



DIARY

Our calendar ensures that you don't miss out...

→ APRIL



10: John Wick

If you haven't already imported the Region A Blu-ray that came out back in February, then you can finally catch Keanu Reeves' new action-packed thriller at cinemas across the UK. www.lionsgatefilms.co.uk

17: Child 44

Tom Hardy, Noomi Rapace and Gary Oldman star in this bigscreen version of Tom Rob Smith's award-winning crime novel. Arriving in cinemas today, *Child 44* follows a disgraced State Security agent in the Stalin-era Soviet Union as he investigates a series of brutal child murders. uk.eonefilms.com

20: The Hobbit: The Battle of the Five Armies

The final part of Peter Jackson's epic fantasy trilogy lands on DVD, Blu-ray and 3D Blu-ray. In addition to the theatrical cut of the film (as usual, an extended version will follow at the end of the year), the two Blu-rays also include four featurettes, a music video and trailers. www.warnerbros.co.uk

24: Avengers: Age of Ultron



Phase 2 of the Marvel Cinematic Universe comes to an explosive close as the heroes reunite to combat the terrifying artificial intelligence Ultron. And best of all it's arriving in UK cinemas a week ahead of the US! www.disney.co.uk

27: Exodus: Gods and Kings

Ridley Scott goes Biblical on your home cinema system today as the director's re-telling of the story of Moses is released on DVD, Blu-ray and Collector's Edition 3D Blu-ray. www.fox.co.uk

→ MAY

04: The Long Good Friday

Arrow's new restoration of this British crime classic arrives on Blu-ray today. But hardcore fans should track down the limited edition boxset, which also includes the film *Mona Lisa* and exclusive bonus goodies. www.arrowfilms.co.uk

07: HCC #247

The next issue of your favourite home cinema magazine hits the stands, packed with hardware tests, features, outspoken opinion and in-depth software reviews. www.homecinemachoice.com

LG ramps up OLED production

4K OLED will be available at Full HD OLED prices by the end of the year

LG says that it's determined to steer OLED and 4K technology into the TV mainstream during 2015. All of its 2015 OLED screens will offer 4K resolution while 4K LED will settle at new, low price points. 'In total, 65 per cent of our 2015 range will be 4K,' confirms LG UK Commercial Director Andy Mackay.

'Our R&D going forward will be moved to OLED panels from 2016 onwards,' says Robert Taylor, LG UK product manager for home entertainment. 'You'll start to see less in LED and more OLED innovation. The technology is so much easier to work with.'

At LG's 2015 trade show held in Mercedes-Benz World, a stone's throw from the site of its soon-to-open new UK HQ, the brand told HCC that it intends to slash the cost of OLED by the end of the year. 'In the third quarter we will have a more affordable 4K model coming in. The 2014 EC930V Full HD OLED will run through until IFA (September), at which point you'll see a new product launching which will be 2160p resolution at a similar price point.'

LG claims that it will also introduce its flexible OLED proposition at IFA. The ingeniously engineered display allows users to curve or flatten their panel, ostensibly to match different styles of content.

'Our OLED evolution will be supported by a revolution in terms of number of units and scale,' explains Taylor. 'We want to make OLED more affordable and more readily available.' To back up this pledge the brand has made a \$600m investment in its Paju panel production plant. 'This will have a big impact in volume,' says Mackay.

What about HDR?

In the meantime, LG's 65in 4K OLED EC970V (which was initially promised, but failed, to arrive in 2014),



Robert Taylor: 'Our OLED evolution will be supported by a revolution in terms of number of units and scale'

will finally hit UK stores this Spring, priced around £6,500. It will be joined on the high street by the all-new EG960V, in 65in and 55in screen sizes, tentatively ticketed at £6,500 and £3,800 respectively.

The company's new hero 4K LED TV will be the UF950V. Available in 55in and 65in screen sizes, it features Wide Colour Gamut technology with a second-generation (i.e. faster) WebOS Smart TV UI, and a new Auditorium stand which reflects downward-firing audio into the viewing area. This model will be joined by the UF860V, in 55in and 65in sizes, which features an audio system designed by Harman/Kardon.

LG will also promote entry-level 4K LED with its UF675V, which at 49in has no Smart connectivity or HEVC decoder. LG suggests that it'll be ideal for use with BT's proposed 4K set-top box.

All new LG OLEDs will be curved, but 4K LED models will also be available flat if preferred. Interestingly, none of the new season screens make any claim to be HDR-(High Dynamic Range) capable. 'There is no standard. We'll hear a lot more around IFA about HDR, to be honest. We have shown prototype OLED and LED HDR screens, but all the models we're introducing now are not HDR. HDR is not like 4K, where you can upscale,' says Taylor. 'At the International CES at the start of the year we did talk about Dynamic Luminescence, which is inspired by HDR, but realistically that's going to roll up with our IFA news,' he promised.

LG intends to flood the UK market with OLED screens in 2015



This month's top 10 news stories in handy, bite-sized chunks...



1 Cinema 'SuperTicket' arrives
The idea that cinemagoers could buy a cinema ticket that also grants access to a digital copy of a film has finally become a reality in the UK this month. Signature Entertainment partnered with Empire Cinemas and VOD service Wuaki.tv to do just that with the recent cinema release of heist thriller *Kidnapping Freddy Heineken* (pictured). Those attending an Empire cinema could buy an all-inclusive 'SuperTicket' that covers both theatre entry and the ability to download the title from the Wuaki service.

2 Sky prices set to rise
Having splashed out £4.2bn on another three years of Premier League football, Sky has announced a series of price rises for its TV bundles. As of June 1, the Sky Movies bundle will increase by 50p per month, Sky Sports by £1, Sky Movies + Sky Sports by £1.50, Variety by £2 and Family by £3. There's good news for subscribers with the Original bundle as that won't be affected.

3 Streaming tops CD revenue
Figures released by the Recording Industry Association of America show that streaming music revenues overtook those of CD in the US for the first time in 2014. Streaming brought in \$1.87bn last year (up 3.2 per cent), while CDs only managed \$1.85bn (down 12.7 per cent).

4 4K TV ad causes trouble
Currys/PC World has been given a slap on the wrist by the ASA (Advertising Standards Authority) for a Christmas TV ad for 4K TVs. The ASA supported complaints from the public about 'watching your favourite Christmas movies in greater detail' given the fact that no mainstream UK broadcasters currently offer any 4K content.

5 Meerkat Movies launches
Comparethemarket.com has won the contract to take over the UK 2-for-1 cinema ticket offer previously run by mobile operator EE (formerly Orange). In addition to a change of name from Orange Wednesdays to Meerkat Movies, the offer is expanding to include Tuesdays.

6 Spain sets 'piracy record'
A report published in March has called Spain one of the worst countries in Europe for internet piracy. The online habits study conducted by the Coalicion de Creadores claims that a staggering 88 per cent of downloads in Spain are illegal, and that the 4.3bn connections to pirate content in the country has resulted in an estimated loss of €1.7bn for rights holders.

7 Deezer goes lossless
Every month it seems like another high-quality audio streaming service launches in the UK. This time out it's Deezer Elite, which streams lossless FLAC files at 1,411kbps, compared to 320kbps for Spotify Premium. Deezer Elite costs £14.99 per month, although this drops to £9.99 per month if you pay for two years up front.

8 Another bite of Apple TV
Rumours are rife that Apple will unveil a new incarnation of its Apple TV set-top box at the Apple Developers Worldwide Conference in June. As well as upgraded hardware and a fully-featured app store, it's also expected to feature a new streaming VOD service that Apple has been discussing with US networks.

9 Crime and punishment
The BBFC has refused to grant a certificate to home invasion horror flick *Hate Crime*, which was due to be released as part of a new VOD venture between TheHorrorShow.tv and film website nerdly.co.uk. 'I am honoured to know that my mind is officially too twisted for the UK,' says *Hate Crime* director James Cullen Bressack.

10 Powerful pricing
The Chord Company has introduced a new £550 mains cable for hi-fi and home cinema components. If you're wondering why the 1m Signature ARAY Power Cable costs so much, you aren't alone – but we imagine it has something to do with its use of high-density braided shielding, proprietary ARAY conductor technology and custom-made silver-plated high performance mains plug and IEC connectors.



Chord Company's Signature ARAY cable doesn't come cheap...

PREMIERE

What's happening in the world of TV and films...

Crow set to fly at last?

Boardwalk Empire star Jack Huston has become the latest in a long line of actors (including Bradley Cooper, Luke Evans and James McAvoy) to be linked to the title role in the troubled remake of *The Crow*.

Sony gets 'busted'



Sony Pictures has now announced the creation of Ghostcorps, a new production company run by Ivan Reitman and Dan Aykroyd devoted to expanding the *Ghostbusters* franchise. Plans are already in place for Channing Tatum to star in a male-orientated counterpart to the upcoming all-female movie reboot, and Ghostcorps is also looking to expand the franchise to TV as well.

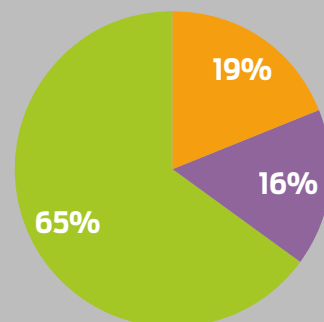
Beauty... gets its Beast

The Guest's Dan Stevens has signed on to play the princely alter-ego of the titular furry monster in Disney's live-action remake of *Beauty and the Beast*. Emma Watson stars as Belle, while Luke Evans (again) has been cast as cocky hunter Gaston.

WE ASKED...

Which of the following statements about 4K TV best applies to you?

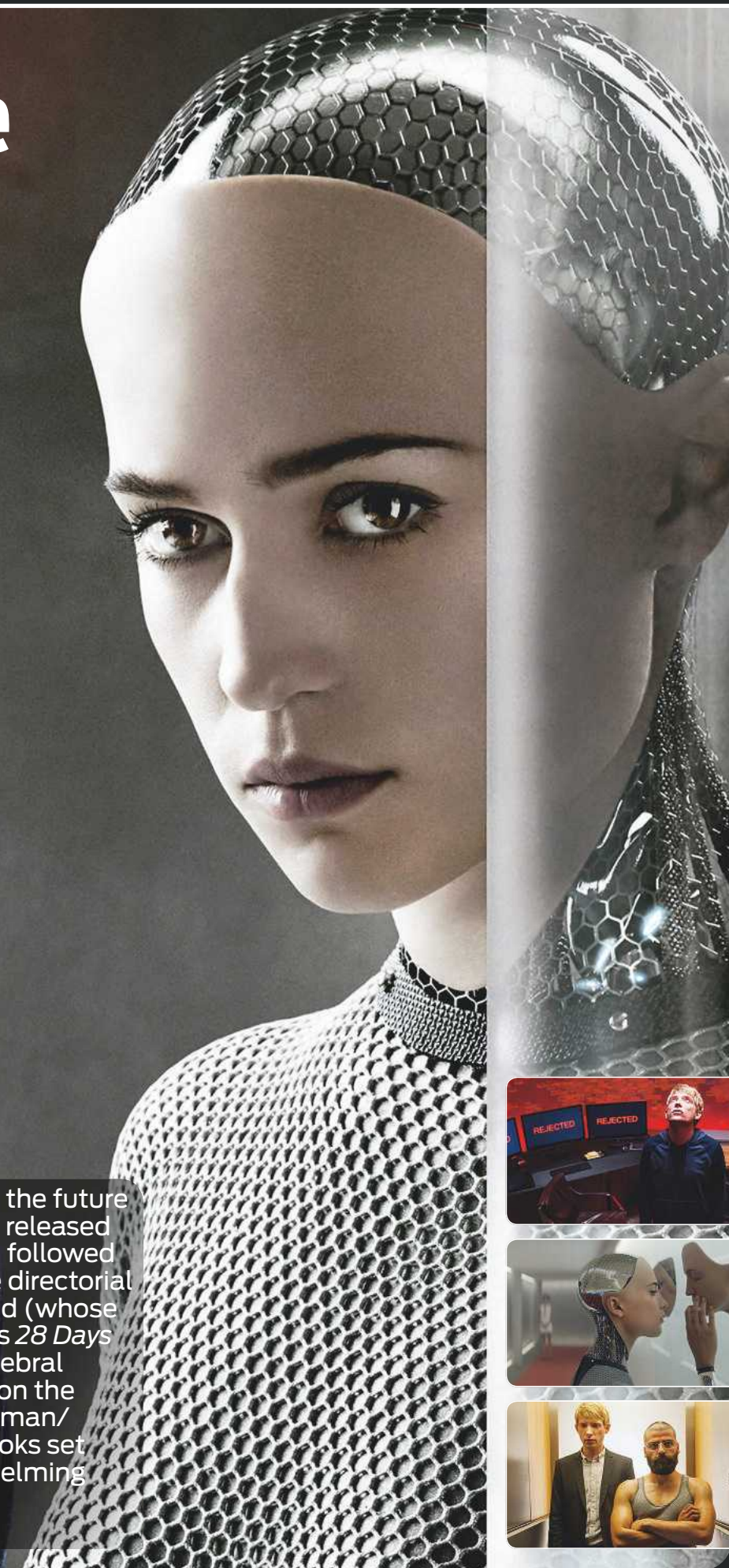
- I already own a 4K TV
- I plan on buying a 4K TV
- I'm content with my Full HD TV



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Get ready for a chilling glimpse of the future when techie thriller *Ex_Machina* is released on Digital Download from May 18, followed by DVD and Blu-ray on June 1. The directorial debut of screenwriter Alex Garland (whose previous scripts include *HCC* faves *28 Days Later* and *Dredd*), it's a stylish, cerebral slice of sci-fi offering a fresh spin on the ideas of artificial intelligence and man/machine relationships. Sadly, it looks set to be joined on BD by an underwhelming array of extras, with just five brief featurettes confirmed so far.



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www.kef.com





Selling out thousands on AV separates can be nerve-wracking, but NAD's Master Series calms the nerves by virtue of its modular, upgradeable design. Oh, and it sounds sublime...



Ed Selley's love of testing heavyweight power amps and processors is only dampened slightly by the challenge of getting them back in their box





FOR MANY YEARS, the general perception of the Canadian brand NAD might best have been summed up as 'workmanlike.' Behind that rather prosaic grey livery, the engineering was solid, reliable and normally very effective but rarely did it cause a huge amount of excitement. This isn't to say there haven't been some great NAD products – there have been several, including the predecessors to the models on test here – but the brand was about worth rather than superficial excitement.

All of that seems to have gone out of the window of late. Even when NAD products are still grey, there is enough impressively radical technology to raise eyebrows and move NAD into a number of new categories, including streaming amps and USB DACs. And in the case of the Masters Series

components, NAD has really gone to town. Wrapped in all new casework, NAD's flagship components are a technical *tour de force* that come dressed in a sharp suit. Many of the models in the range have a stereo focus but the M17 processor and M27 multichannel power amp are a no-holds-barred assault on high-end home cinema.

Small companies (or at least 'smaller', as NAD is hardly a three-men-in-a-garage outfit) and AV are not always the happiest bedfellows. The rapid pace of AV development can catch boutique brands on the hop. There are, therefore, some caveats to be considered here. Most obviously, the M17 processor is currently devoid of HDCP 2.2 support, HDMI 2.0 connections or Dolby Atmos (and, indeed, DTS:X) playback. In a product that costs £4,500, this might >





initially sound inexcusable. However, the spec of the M17 as tested is not the final word in what purchasers can expect. In the top layer of the packaging is a letter explaining that your M17 can be returned to your dealer to be updated to HDMI 2.0 and HDCP 2.2 functionality when such an update is available.

The reason NAD can promise this with any degree of optimism about it actually happening is that the Master Series products are assembled around a process that NAD calls Modular Design Construction (MDC). This means that the software and connectivity of the M17 can be adjusted to meet future requirements (a VM300 MDC Video Module is what's promised). You are spending a fair amount of money on the M17 but hopefully it will see you good for a while.

Neither is the current spec of the M17 exactly minimalist. The NAD is a seven-channel processor with support for the usual retinue of surround formats barring Atmos, and has a healthy selection of connectivity – both modern and legacy – including six HDMI inputs and a pair of outputs. Audyssey's idiot-proof MultEQ system (Pro iteration) is fitted for setup and equalisation, and the NAD ties all of this functionality together via a full-colour front-panel touchscreen that manages to show plenty of information at once without looking cluttered or fussy.

There's no Wi-Fi here, but an Ethernet connection is offered. Get the M17 on your network and you can use NAD's smartphone/tablet AVR Remote control app. Note,

'Capable of incredible delicacy, and the ability to deliver huge dynamic punches when you need them'

however, that no home networking talents are offered. System builders are catered for by 12V trigger, IR and RS232 hookups, while AV preset modes allow speaker level and tone control settings to be saved for later recall.

Output to amplification is via either XLR or phono connections. You could, of course, use any power amp, but NAD's style-matched M27 is the obvious choice. Its specification is less flexible than that of the M17 processor but equally, the requirements of a power amp are rather more fixed. And the specs aren't likely to disappoint. The M27 is a seven-channel design, claiming a hefty 180W per channel with all channels driven and with minimal THD. Under dynamic measurements, the M27 should swing 300W into those seven channels, which in turn



The Masters Series uses NAD's Modular Design Construction (MDC), enabling future upgrades

means that there aren't many speakers you can connect to it that will provide it with any real challenge.

The numbers don't tell the whole story of the Masters equipment. It is only in the flesh that they start to make real sense. First up, they are beautifully built. The casework is totally inert, impressively tactile and if anything feels more expensive than the asking price. Seriously: the volume knob on the M17 is a

thing of absolute wonder. The weighting, resistance in the hand and the absolute smoothness with which it operates is a little piece of unbridled joy. I found myself walking up to adjust the volume by hand. Not that using the remote is much less of an event. NAD supplies the M17 with a handset made almost entirely out of metal that sits in your palm like an aluminium ingot and makes every other remote you own feel entirely insubstantial. >



Taking the top off: NAD Masters Series M17

A Twice as nice

The NAD has dual power supplies, one switch mode for digital and one linear for analogue

B DAC's the spirit

The audio output circuit uses eight high-end stereo DACs in differential mode driving the M17's balanced outputs

C Where's the...?

Don't look for an on/off button on the NAD's front fascia – it's actually mounted on top of the chassis...

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John Lewis

As I've espoused before, the very concept of a separate processor and power amplifier is a potential money-saver, too. You have to expect that, even with its life-span being extended by the modular design, the M17 will have a point where it is obsolete, but for as long as AV requires an amplifier – even if it needed to be augmented with extra channels – the M27 is a fine example of the genre and

will be well up to the task of partnering another processor in the future, while at the same time a one-box solution typically has to be junked in its entirety.

No scares here

Setup is impressively straightforward. The boxes the NADs arrive in are large but the units themselves aren't actually that cumbersome.

The menus are easy to navigate and the layout of the back panel is very logical. If you can setup a normal AV receiver, nothing here is going to frighten you off.

I began with the M17/M27 combi connected to the quintet of Elipson Planet M speakers that live with me full time. And what surprised me was that even with the diminutive Elipsos, the NADs begin to show what they are about.



BACKSIDE STORY

The M17 (top) is endowed with six HDMI inputs and twin outputs, allowing it to feed both a TV and projector. There's also a multitude of analogue and digital inputs, including composite video outputs for second and third zones. Zone 4 is audio only. The processor connects to the M27 amp (bottom) via either balanced XLR or unbalanced phono.

Bolted to the M27, the little Planets seem to gain in size, scale and authority. This is more than a powerful amp; it is a seriously accomplished one, too.

No one will buy the Masters Series to tickle a style-conscious sub/sat package, however, so I quickly reset my room with the Sonus faber Venere system (reviewed last issue). And with a few grand of Italian loveliness in place, the NAD duo really strutted its stuff.

With my current favourite demo sequence – the rain-soaked climax of *Rush* – there was an effortlessness to the way that these slabs of silicon moved effects around and then provided any volume level I could possibly want. The layers of sound in the DTS-HD MA mix were beautifully defined and easy to distinguish, but combined to create a delightful, believable whole. The M17 can put sonic details exactly where they need to be.

One of the more interesting aspects of this partnership is that despite the tremendous power and processing ability, it is remarkably self-effacing. During a spirited rendition of the final plane-hurling silliness of *Into the Storm*, I realised that almost all of my notes applied to the speakers rather than the NADs, but their influence is there nonetheless. Taking them away and listening back to the same scene via my integrated AVR, I discovered that the way that the wind effects are all encompassing but never overpower dialogue is something the NAD duo was nailing.

Neither is this ability limited to action and explosion-filled sequences. The brooding soundscapes of David Fincher's thriller *Gone Girl* allow this system to illustrate just how masterly it can fill a space with the soundmix's background details and Trent Reznor's unnerving but rather brilliant score. Even at low levels, the sound pulses with energy and sheer life. The Masters Series is capable of incredible delicacy, backed up with the ability to instantly deliver huge dynamic punches when you need them, making watching movies, well, a whole lot of fun.

The M27 amplifier makes for an interesting comparison to the Parasound Halo A21 and A31 duo I reviewed a few months back. The NAD lacks some of the almost liquid smoothness that the larger American amps have, but it hits back with a speed and sheer energy that gives it a more immediately upfront and lifelike presentation. For sustained power delivery, the big Parasounds will eventually win the day, but the M27 puts up more of a fight than the specs might suggest, given that it packs seven channels



The basic handset for the M17 fits snugly in your palm

into one box rather than splitting five over two.

Where their extra energy gives another welcome boost is with music material. With the multichannel audio-only Blu-ray of Pink Floyd's *The Endless River*, the NADs present the wide and lush prog rock performances with tremendous room-filling scale, but also a speed and nimbleness that is often lacking in powerful AV products. If anything, the M17 and M27 are even more impressive in stereo than they are

with movies. With the M17 taking a digital signal from a Naim ND5XS streamer, the resulting performance is something that I could happily live with from here to eternity. This package has the sense of timing and rhythmic ability that makes music an event.

In fact, making media an event is a strapline that suits NAD's Masters Series down to the ground. My time with the M17 and M27 coincided with the opening double-length episode of *Fortitude* on Sky Atlantic. The result was genuinely cinematic, and I found that even much more mundane broadcast material was injected with a sense of purpose and excitement. At late-night listening levels those impressive dynamics ensure that soundtracks still have a reasonable space between loud and quiet passages.

The £8,000 question

There is no point trying to pretend that these units are anything other than a big sack of cash. You could buy an immensely talented integrated AVR and some serious speakers, and still have a number with three zeros on the end left over in change.

The arguments about two-box solutions representing a canny purchase are true to a point, but won't be realised until the next update to NAD's MDC comes around. While I am sure that the Canadian audio guru will come good in that regard for the M17, at the moment the specification has a few holes in it.

Yet having spent some quality time with these two grey and silver brutes, I can honestly say that none of these things bother me in the slightest. If you can afford the Masters Series, you are going to be treated to a pair of components that look good, are superlatively built and deliver a sonic performance that is consistently and unfailingly brilliant, be it with Blu-ray, broadcast or plain old two-channel music. Badge-hunters may need convincing, but I don't. These products embody all the NAD virtues I have come to expect and are immensely covetable ■

SPECIFICATIONS

M17 (PROCESSOR)

DOLBY ATMOS: No (but possible upgrade in future). Dolby TrueHD, plus ProLogic IIx

DTS-HD MASTER AUDIO: Yes

THX: No

MULTICHANNEL INPUT: No

MULTIROOM: Yes. Three additional zones

AV INPUTS: 8 x digital audio (4 x optical and 4 x coaxial); 3 x composite video

HDMI: 6 x inputs; 2 x outputs (v1.4)

VIDEO UPSCALING: Yes. To 1080p

COMPONENT VIDEO: 3 inputs; 1 x output

DIMENSIONS: 435(w) x 156(h) x 386(d)mm

WEIGHT: 10.9kg

ALSO FEATURES: Modular Design Construction (MDC) with future HDMI/HDCP 2.2 upgrade (free); Audyssey MultEQ setup; Audyssey Dynamic EQ; stereo-to-surround EARS (Enhanced Ambient Recovery System); NAD control app; Ethernet; 3 x 12V trigger outputs; 4 x IR outputs; RS232; choice of XLR and phono outputs; full-colour touchscreen

M27 (POWER AMP)

POWER OUTPUT (CLAIMED): 7 x 180W (all channels driven)

CONNECTIONS: 1 x XLR and 1 x phono input per channel

DIMENSIONS: 435(w) x 156(h) x 380(d)mm

WEIGHT: 14.1kg

ALSO FEATURES: nCore amplifier technology; NAD PowerDrive and SoftClipping; 0.5W standby power rating

HCC VERDICT



NAD M17/M27

→ £4,500/£3,500 → nadelectronics.com
→ Tel: 01732 459555

HIGHS: Exceptional performance across all media; stunning build; easy to set up and run; welcome upgrade potential

LOWS: No Dolby Atmos or HDMI 2.0 support at present; no Wi-Fi; no home networking; not exactly cheap

Performance ★★★★★

Design ★★★★★

Features ★★★★★

Overall ★★★★★

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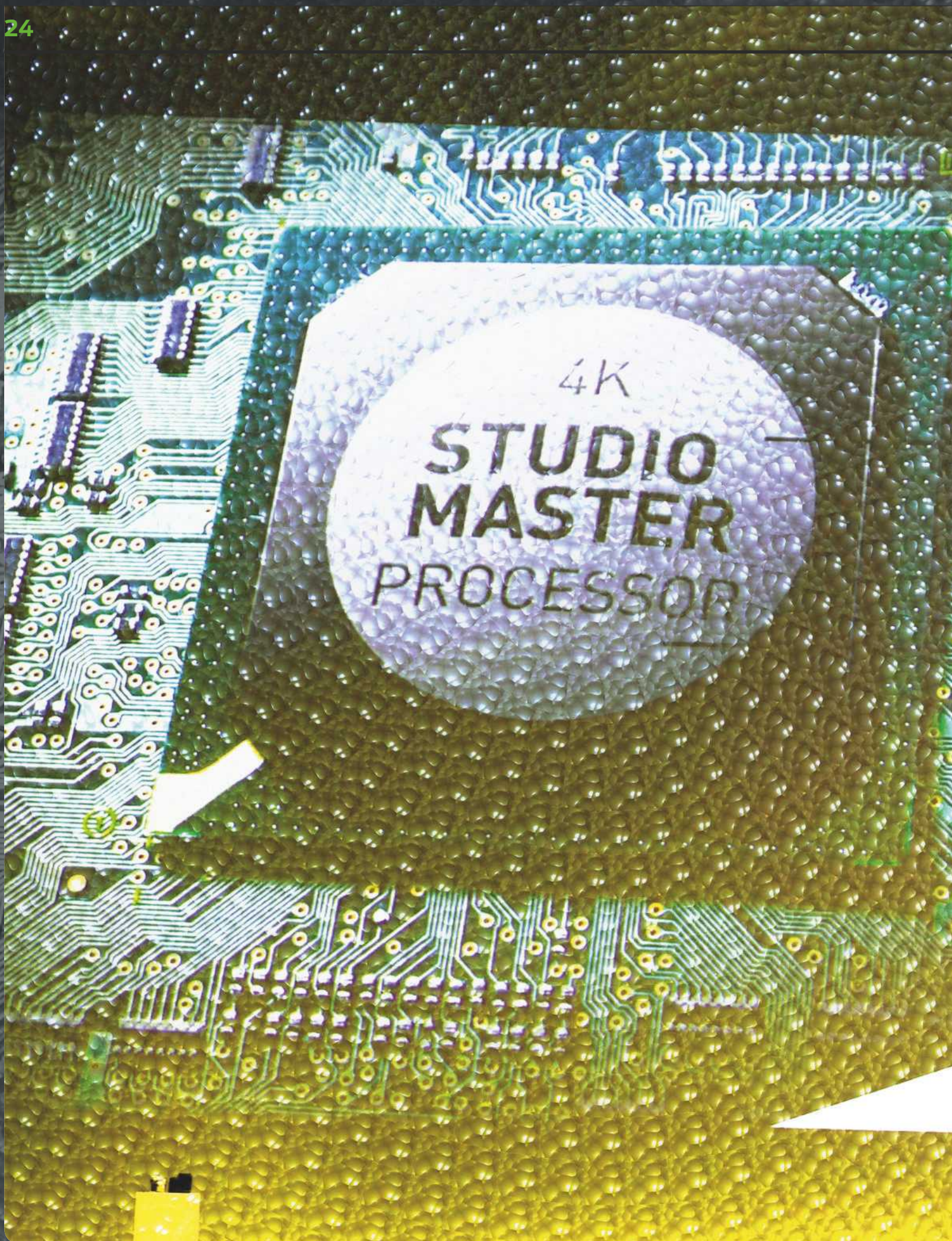
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Panasonic focuses on 'pro-grade' 4K

The TV titan is drawing upon its Hollywood heritage to create UHD displays, both flat and curved, that it hopes will dazzle film fans.

Adrian Justins reports

A YEAR IS a long time in consumer electronics. This is a good thing for Panasonic, which 12 months ago looked in danger of lagging behind its rivals. Plasma production had ceased and its own screen lineup had the sparkle of a putting green, consisting of exclusively flat LED/LCD models, all but two of them Full HD. It seemed as if Panasonic was literally falling behind the curve.

Fast forward to 2015 and the Japanese brand is invigorated and refreshed when it comes to TVs, having embraced 4K and (more or less) kept abreast of other image-optimising developments.

At the company's recent European Convention in Frankfurt the star of the show was a reference-grade 4K Studio Master processor which will feature in a raft of 'pro-grade' 4K screens, some of them even curved. Support acts included a slew of 4K-capable cameras and camcorders, multiroom audio, affordable Blu-ray players and a slick new TV operating system developed by browser guru Firefox.

Announcing the 4K Studio Master Processor, Yuki Kusumi, head of Panasonic Home Entertainment, said it had been developed as a result of Panasonic's 'know-how with professional-grade colour management and other visual technologies built up through our B2B pro-AV business.' He also claimed that Panasonic can now deliver to viewers what it believes to be 'the very definition of picture quality: accuracy to the director's intentions.' This laudable idiomatic claim, if true, would be as much due to the company attaining unprecedented standards of brightness, colour and contrast reproduction as it would be to the detail afforded by the 8 million or so pixels of a 4K screen.

As CES 2015 proved, there are a number of contentious matters clouding the TV screen industry that are possibly just as likely to scare off TV buyers than entice them. At its conference, Panasonic set out its stall concerning these buzzwords with in-depth demonstrations of High Dynamic Range playback and its new Quantum Dot-beating (in terms of spectral range) Accurate Colour Drive.

Every new generation of LCD has come with higher brightness levels, and when standards for producing and displaying HDR content arrive, Panasonic showed it at least has the Nits and the processing power required to handle them. A 4K HDR demo of Netflix's *Marco Polo* on a pre-production sample of its new 65in flagship 65CX800 screen did seem eye-scorchingly over-zealous but Panasonic's Brand Development Specialist Gary Bidgway told *HCC* that the demo was principally to show how bright its 1,000 Nit screen can go. The proof, as always, will be in the eventual pudding.

A more convincing demonstration was of the screen's colour handling. Panasonic claims that its new Wide Colour Phosphor panel design can



Panasonic's Studio Master Processor
— it's new 4K secret weapon



Over 20 4K/UHD screens are included in Panasonic's lineup this year

achieve 98 per cent of the DCI colour spectrum, six per cent more than Quantum Dot and other systems. It creates colours from 8,000 registry points on a 3D Lookup Table. Most of the new Viera screens have this level of fidelity, but only the flagship model has the control required to accurately deliver the optimum colour reproduction.

The THX-certified 65CX800 ticks some other vital 4K boxes in the guise of HDMI 2.0 inputs (four on the 65-incher and its 55in sibling),

HEVC decoding for compatibility with Netflix and Amazon Instant Video, plus VP9 decoding, which is favoured by YouTube.

The directly-lit LED panel used on the 65CX800 showed slight evidence of backlight clouding, which it seems is impossible to eradicate in LCD panels despite the use of the latest version of Local Dimming Pro. A prototype 4K OLED screen nearby, however, showed devastatingly good black levels and contrast. A full production model is expected to be announced at the IFA technology show in September. When asked if it would have the necessary brightness to be HDR-compatible, Bidway replied: 'I would hope so.'

Going all out for UHD

From just two 4K screens a year ago, Panasonic now has 24 models lined up for the UK this year and the plethora of Ultra HD screens (see below) conveyed the message that Full HD will soon feel like the televisual equivalent of dial-up internet.

Panasonic has also joined the curved club. There will be three levels of curved screen, with sizes of 55in and 65in on offer. Interestingly, the company isn't making bold claims about an improved viewing experience: 'Curved screens don't enhance picture quality, they are just a design choice,' Bidway told me. Some will find that hard to disagree with.

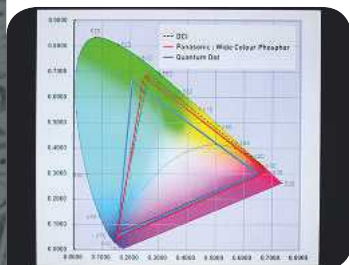
Perhaps more exciting is the new Firefox OS that Panasonic has adopted for its Smart TVs. This was demonstrated impressively. In a nutshell, it offers a

graphical-based user interface that is much simpler and cleaner than anything Panasonic has done before. Switch the TV on and three large 'decks' appear as discs. These are namely Live TV, Apps and Devices but the user can easily personalise the deck array, adding maybe BBC iPlayer or an external source. The adoption of Firefox puts Panasonic on a more equal footing with the likes of LG, Sony and Samsung, which have respectively adopted the similarly more user-friendly operating systems WebOS, Android and Tizen.

Panasonic couldn't help but show one feature that will only be available on Smart TVs on the continent. Dubbed In-House TV streaming, this allows streaming of live shows from the main TV's second tuner to a tablet, smartphone or other TV. Also, I was told that Panasonic's TV Anywhere feature (an option in the UK), which provides for remote viewing of TV tuner pictures anywhere with a 'net connection (great for when you're on holiday) will not be carrying any BBC services, due to licensing issues.

As compensation though, the corp was able to announce that it will be the first manufacturer to sell screens in the UK kitted out with Freeview Play. This will also be available as a software download in May should anyone buy a new screen before then. Freeview Play is similar to YouView in that it allows retrospective EPG browsing (up to seven days) with selected shows available to download from the BBC, ITV and Channel 4 (with Channel 5 incoming). Video content will be delivered by broadband but a good terrestrial aerial signal will still be required to receive the EPG, warned Panasonic.

Freeview Play is emblematic of the gradual shift in viewing habits away from watching live broadcasts and even PVR recordings. Joris Evers, European Communication VP for Netflix, was on hand at Panasonic's convention to tell us that 'there is no doubt that the future of TV is internet TV'. He confidently predicted that by 2030 internet TV will have replaced traditional broadcast platforms. Crystal ball gazing is all very well (who'll remember his prophecy in 15 years?) but the growth in on-demand consumption is inarguable. And Panasonic looks well placed to be part of the picture ■



Panasonic's Wide Colour Phosphor panel claims to reach 98% of the DCI spec (above); the new Firefox-powered user interface (below)



PANASONIC 2015 TV RANGE RUN-DOWN

Flat and curved UHD and Full HD screens to look out for this year

4K all the way



Panasonic's 2015 Viera lineup of 4K/UHD flatscreens is headed by the flagship CX800 series. This LED TV

offers a 1,600Hz Backlight Motion Rate (BMR) and will be available in 40in, 50in, 55in and 65in flavours. Onboard features include Freeview Play, Local Dimming Pro and the 4K Studio Master processor. The step-down ranges are the CX700 (40in, 50in, 55in and 65in), CX680 (40in, 50in and 55in) and CX400 (40in, 48in, 55in and 65in).

Curves in all the right places



Panasonic's debut curved TV range is exclusively 4K, and leading the charge is the top-dog CR850 series, a 1,600Hz BMR 4K/UHD LED TV available at 55in and 65in. Those with a passion for concave styling can also check out the CR730 series, which drops the BMR to 1,000Hz (again available in 55in and 65in) and the entry-level CR430 series, which will only make an appearance at 55in.

Panasonic's debut curved TV range is exclusively 4K, and leading the charge is the top-dog CR850 series, a 1,600Hz



Full-on Full HD

Regular 1,920 x 1,080 displays are still big sellers, so it's no surprise to see Panasonic prepping

new models. The CS600 series will be available in sizes from 32in up to 65in, with features including Bright Panel Plus technology and My Home Screen personalisation. There will also be the CS500 range in 40in, 50in and 55in guises.



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*Air Studios models are SC-LX78 and SC-LX88 only



Home cinema evangelist **Steve May** outlines the golden rules that all movie fans are asked to obey – and reveals when and why it's okay to break them



I: THOU SHALT NOT COMMIT ADULTERY WITH STANDARD-DEF



True Lies: one Hollywood blockbuster still not available on Blu-ray

With its fuzzy detail and jaggy diagonals, few things are as depressing as having to watch TV in standard blech-inition. SD is just about bearable if you have a small screen, but view on anything 50in-plus and the lack of clarity can become misery-inducing. Thankfully, there's increasingly no need to slum it as HD has become as ubiquitous as headphones on the Underground. Blu-ray is now a default viewing option, while Sky and Virgin Media each offer more

than 50 channels in HD. More significantly, if you have fast fibre broadband, then OTT services such as Netflix and Amazon Instant Video will stream HD with a clarity that can rival BD. Good news if you're an unapologetic resolution snob.

But this commandment is still easily broken. There will probably always be a need to watch some stuff in SD. For those with extensive disc libraries, it may simply not be possible to upgrade all your discs, not

least because some content is deemed too obscure or esoteric to ever get an HD release. So what should such sinners do? Invest in a disc player (or even an AVR) with above-average upscaling abilities.

The problem we all now face is 4K-resolution material. Having acclimated our peepers to Full HD, will a move to the content wilderness that is UHD plague us all with unquenchable, infuriating dissatisfaction? Watch this space...

II: THOU SHALT NOT MAKE ANY GRAVEN IMAGES USING KEYSTONE CORRECTION

Keystone correction is the Devil's work. Seductively useful when setting up a projector, it allows you to horizontally or vertically warp an image when it doesn't quite fill the screen area. Such anomalies happen when a PJ isn't perpendicular to the screen, and the image goes on the wonk. It's a common headache if you don't have a dedicated theatre and instead whip out your projector as and when required. When using digital keystone correction, the image is electronically adjusted before it's projected. Badly implemented it can create a trapezoid tombstone effect. Even moderate tinkering can introduce some level of edge-distortion.

Of course, not all projectors offer both horizontal and vertical electronic correction. Many specify just vertical keystone, while others have nothing. If available, always use lens shift over keystone correction as this is a physical movement of the lens within the projector itself, and does not damage image quality at all. With no lens shift on offer, the best solution is to line up your projector so that no keystone correction is required. This is easier said than



Budget models like Epson's EH-TW5200 have obvious appeal, but often lack lens shift

done, so you may have a situation where this rule has to be broken. If so, keep your transgression unto thyself and distract your audience with extra popcorn.

III: THOU SHALT NOT ABANDON THY PHYSICAL DISCS

If you're one of the many with an extensive disc library you might be tempted to abandon your platters for the convenience of one (or more) of the movie streaming services available. But be wary. While Netflix or Amazon may appear to have your favourites available today, there's no guarantee they'll be on tap tomorrow. Licensing deals mean that titles arrive with a fanfare but disappear silently in the night with often undue haste.

If you do dump your discs, you'll also be foregoing those informative audio commentaries, assorted outtakes and magnificent *Making of...* docs, not to mention your beautifully presented disc library. And, of course, your discs won't stop working when the internet goes down or you exodus from a high-speed broadband location to that country idyll still on dial-up. Cherish your platters!



IV: THOU SHALT NOT COVET MOTION SMOOTHING TECHNOLOGY

Pretty much any decent telly you buy these days will offer some form of motion interpolation. It comes with different labels depending on the screen brand – MotionFlow, Intelligent Frame Creation, Motion Plus and so on – but the overall aim is the same: to multiply the frame rate in order to improve motion resolution and reduce judder. But there's often an unholy price attached.

This buttery tech brings with it motion artefacts that are often far worse than any claimed benefit. It can also commit the ultimate sin of making movies look positively uncinematic.

Some TV makers helpfully offer custom modes to fine tune performance. Typically this comes with adjustable Blur and Judder control. To maintain a sense of celluloid and hold on to as much detail as possible, set Judder reduction on zero and Blur at around 8 (there's some variation between manufacturers, but as a ballpark figure this is good). For films, though, you might want to banish it altogether. Do this and you'll likely only suffer a moderate drop in moving resolution and the image will remain pleasingly filmic.

Normally, we'd advise motion interpolation only be used with studio content to emphasise detail, and for live sports coverage where ball-tracking clarity can help. Anyone who leaves it on 'max' regardless of content deserves a plague of locusts through their movie den, frankly.

Give up on physical discs in favour of 'net-streamed movies and you won't be able to do this sort of thing with your platters, will you?

V: THOU SHALT NOT USE A SOUNDBAR



Trying to argue against the meteoric rise of the soundbar might seem a godless task. Sales continue to sky-rocket as the humble 'bar becomes by default the only loudspeaker enclosure deemed acceptable in the average household. Yet die-hard AV enthusiasts will tell you they should not be considered. Should you heed their warning?

Soundbars originally gained prominence as a solution to the inadequate audio performance of the average flatscreen.

However, while laudable, they've since become truly multifunctional. Not to put too fine a point on it, they've just become too good. The Arcam Solo soundbar, for example, is every bit the equal of a pair of high-performance bookshelf speakers, but integrates a four-input HDMI switcher with 4K passthrough. Yamaha's rival YSP-2500 uses an array of no fewer than sixteen drivers able to deliver targeted sound beams under DSP control. The supplied Intellibeam auto

calibration mic determines the ideal soundfield, optimising the angle of the sound beams depending upon a room's reflective surfaces (smaller spaces with hard surfaces work best). All this is enough to give virtual surround a good name.

If your room is a limiting factor on the kind of speaker array you can install, then a soundbar can be manna from heaven. And if it's a second room screen and you have a choice of a soundbar or nothing, go with it.

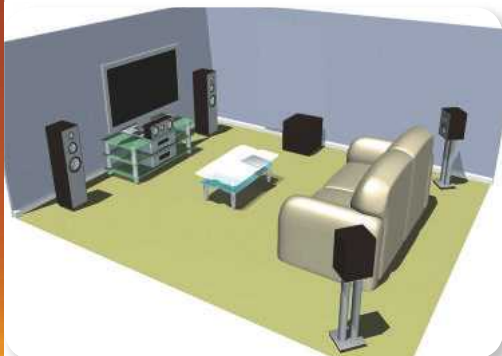


VI: HONOUR THY SPEAKERS WITH THE CORRECT CONFIGURATION

This is a commandment that can be taken with a pinch of salt. Anyone aiming for a premium multichannel performance should strive to follow the recommendations of the audio experts, but sometimes life (well, furniture) gets in the way, especially in living room setups. And with Dolby Atmos and DTS:X rewriting the rulebook as we speak, 5.1 as we know may well seem as primitive as mono.

Surround sound originator Dolby's speaker layout is a good place to start for the uninitiated, instructing you to place your front left/right enclosures at 22-30° from the listening position, and the surround channels at 90-110°, all at ear height. Note that the ITU (International Telecommunications Union) 5.1 speaker configuration is typically advocated for use with multichannel music. It's essentially a virtuous circle where all loudspeakers should be an equal distance away, sonically matched and fuelled with apocalyptic levels of amplification.

Although the result can be genuinely holographic immersion, it's entirely impractical unless you have a monster room.



Listen to the expert advice when it comes to surround sound

VII: THOU SHALT HAVE TWO SUBWOOFERS

Multichannel movie audio uses the LFE (Low Frequency Effects) channel to convey deep bass; it's the 'point one' in a 5.1 configuration. But that's not to say you should stick with a single subwoofer. Indeed,

using just one sub may lead to an unbalanced soundfield. As a minimum, space allowing, all serious home cinema systems should utilize two subs. While bass is generally non-localisable, many woofers produce harmonics that reveal their location. By using two, you can produce a smoother, less localisable bass-stage. Doubling up on deep bass can also be used to combat standing waves, and it's obviously a great way to pressure-load a room.

And yet... sometimes deep bass is bad for the soul. Getting those two woofers to work in perfect harmony can be a headscratcher, will cost you more, and if you live in an apartment or terrace, maxing out the LFE will bring nothing but grief to your neighbours – those long bass frequencies are not easily contained. Better in this instance to try and achieve the best mid-range loudspeaker performance your budget will allow. Love thy neighbour. Invite them round for a movie...



VIII: THOU SHALT TAKE OUT A NETFLIX SUBSCRIPTION

Netflix has become a must-have online streaming source for AV fans, despite its less-than-stellar film library. Through a combination of advanced tech and kick-ass episodic content, it's the one PPV addiction we just can't shake. For those with a fast broadband pipe it's now a viable alternative to terrestrial DVB broadcasting and satellite delivery, thanks to ever-evolving codec refinement. Offering excellent HD image quality, not to mention a fledgling library of 4K content – *House of Cards* Seasons 2 & 3, *Breaking Bad* and *Better Call Saul*, as well as the new gritty *Daredevil* from Marvel – it continues to foster our insatiable appetite for boxset bingeing.

Netflix also looks certain to steal a march by launching the first HDR (High Dynamic Range) service later this year. The company has been using its *Marco Polo* show at trade fairs and product demos to demonstrate just how dramatic this next evolution in TV picture quality will be. Netflix has even been experimenting with advanced audio codecs such as Dolby Atmos.

That said, Netflix is not quite the no-brainer it once was in terms of pricing. There's a



sliding scale depending on what level of service you want. The basic package is £5.99 per month, jumping to £6.99 for HD. And if you're eager for full-fat 4K, it's a big jump to £8.99 per month.

Netflix has long advocated that the internet is the future of television, and

it's increasingly difficult to disagree. Let's just hope that the service doesn't forget that other consumer commandment: Thou shalt not price thyself out of the market.

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light-controlled blacked-out configuration to a white room with ambient window light (and various stages in between). Tailored to perfectly match your home viewing environment.

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SONY VPL-VW300ES

Confirming their dominance in the 4K projector market, Sony release a more affordable model, still providing an impressive 1,500 lumens and sharing its panel technology with the multi-award-winning VPL-VW500ES.

This projector is a real highlight of the season.

ON DEMO NOW!

4K PROJECTION REACHES NEW PRICE POINT!

NATIVE 4K



34 THE 10 COMMANDMENTS OF AV

IX: THOU SHALT USE YOUR AV RECEIVER'S ROOM EQ SYSTEM



All AV receivers worth their salt come with auto calibration tech and a dinky setup microphone. The systems employed are often proprietary, but all do more or less the same thing – achieve a Reference balance of sorts in your living room.

Pioneer has MCACC (Multi-Channel ACoustic Calibration), Yamaha proffers YPAO (Yamaha Parametric Room Acoustic Optimizer), Sony likes DCAC (Digital Cinema Auto Calibration), Onkyo has AccuEQ, while the rest tend to use one of several confections provided by Audyssey (MultEQ XT32, MultEQ XT, MultEQ and 2EQ). They are all, in their own way, brilliant and powerful.

The good news is all tend to do a decent job when it comes to level matching, distance/signal delay, crossover optimisation and correction filtering. But once they alight at said optimum setting, there's no guarantee you'll like the result. They can equally rip the heart out of your system, stripping away the very characteristics that may have attracted you to your choice of speakers or electronics in the first place.

So once your system has bedded in, don't shy away from setting up your kit yourself. Venture forth and invest in a dedicated sound pressure level meter, or download an app that'll do the same job, then manually set that uniform 75dB average reference output. Measure the distance between your listening position and speakers, and determine the best crossover. Have a play, and above all, listen to the results.

X: HONOUR THY SOUND AS WELL AS THY VISION

Just as DVD smote VHS and 2160p 4K is smiting Full HD, the world of audio is getting a clarity upgrade. It's been a long time coming, but low-bitrate music is finally falling from favour.

Of course, Blu-ray aficionados have been enjoying better-than-CD quality audio for years now. Both DTS-HD Master Audio and Dolby TrueHD support 24-bit audio up to 192kHz. Now the music biz is catching up, with a host of hi-res audio formats that cut the sonic mustard. 24-bit FLAC or ALAC offer greater detail and clarity than low-bitrate MP3 and AAC, as well as boasting superior metadata support. Another hi-res audio file option gaining traction is DSD. DSD 2.8MHz uses a 1-bit/64 times over-sampling process to achieve a mighty 120dB dynamic range; the downside is it's a bit of a space hog. A newer audio tech on the block is MQA, developed by Meridian, which delivers 'studio master' quality in a fraction of the file size. It's the one to listen out for over the next year.

As a tech-head with a passion for quality, hi-res audio should at least be on your radar, and lossless an imperative. The MP3 format was devised 20 years ago to solve data storage problems – banish it and move on to something better! ■

WIN! WIN! WIN!

Fancy a copy of *Exodus: Gods and Kings* on 3D Blu-ray? Of course you do...



Ridley Scott's biblical smash *Exodus: Gods and Kings* sees Christian Bale's Moses leading a slave uprising against Ramesses, parting the Red Sea and transcribing the 10

Commandments (the original ones, not ours...)

An explosive, SFX-laden, 150-minute epic, *Exodus: Gods and Kings* is available to buy on Digital HD on April 20, followed by DVD, two-disc Blu-ray and three-disc *Collector's Edition* 3D Blu-ray on April 27, courtesy of Twentieth Century Fox Home Entertainment. As well as stunning Full HD visuals and DTS-HD MA 7.1 audio, both Blu-ray releases also include more than five hours of special features.

To be in with a chance of winning one of three *Exodus: Gods and Kings* – *Collector's Edition* 3D Blu-ray steelbooks, answer the following brain-teaser...

Question:

Ridley Scott directed which classic 1980s sci-fi flick?

Answer:

- A) *Predator*
- B) *RoboCop*
- C) *Blade Runner*

Email your answer to Competitions@homecinemachoice.com with '*Exodus*' as the subject heading – and include your postal address!

Full terms and conditions can be found on p82.



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This cinema room packs a real surprise courtesy of some high-tech engineering. **Mark Craven** admires the floor show

The main sofa glides forward as the coffee table descends...

...while at the rear, five cinema recliners rise out of the floor and into position below the projector



YOU KNOW WHAT it's like. Movie night arrives and you realise that you haven't got enough seats for all the friends you invited over for that *Lord of the Rings* marathon. Garden chairs, poufs and bean bags can all be deployed, but it's not quite what you had in mind when you planned your cinema den.

This high-end basement-conversion home theatre doesn't have that problem, courtesy of an ingenious engineering solution that sees extra seating appear out of thin air. Well, out of the floor, actually. It's a setup fit for a Bond villain.

The room, which took fully 24 months to complete after contact was first made with UK south coast installer New Land Solutions, at first looks like any other (admittedly very lush) entertainment space, with a large, horseshoe-shaped sofa, and coffee table, taking up much of the floor space. But at the touch of a button on a touchscreen controller something cool starts to happen.

First, the coffee table disappears into the floor, allowing the sofa to slide forward into the vacated space. And then, from behind the sofa, a quintet of Fortress cinema chairs rises out of the floor, taking residence at the back of the room and providing a second tier of seating from which to kick back with a bag of popcorn. Meanwhile, a 150in projector screen descends from the ceiling, the rear wall moves to reveal a projector, and automated blinds glide into action. The entire process takes around 100 seconds, and the new arrivals don't upset the room's carefully chosen orange and grey décor. >

Kit checklist

SCREEN RESEARCH: 150in masking projector screen
RUNCO: Full HD projector with CinemaScope lens and processor
KALEIDESCAPE: Cinema One disc server/player
DATASAT: RS20i processor
PROCELLA: 5 x DA-2800 amplifiers; 5 x P8 speakers; 3 x P10 speakers; P15 and P18 subwoofers
SAVANT: Control solution and bespoke programming of touchscreen controllers
SKY: Sky+HD **OPPO:** Blu-ray player **APPLE:** Apple TV
FORTRESS: Cinema seats; custom sofa
OCEAN AIR: Fabric wall panels, roof blinds and blackout blinds
FUTURE AUTOMATION: Custom sofa slider; seat and projector 'reveals'
MIDDLE ATLANTIC: Kit racking

Achieving this transformative magic trick was, understandably, no easy task. Firstly, they had to dig deep, something only allowed because the property had existing planning permission for an underground pool. The sofa, also from cinema brand Fortress, had to be a custom design to house the relevant mechanisms, while the other motorized system had to be strong enough to lift five cinema chairs. There was also a raft of health and safety measures to overcome. 'We had to install pressure sensors in the carpets, seats and sofa that automatically stopped movement if pressure was detected,' reveals installer Luke Newland.

The specified kit is from the upper echelons of AV. The room employs a Procella speaker array, using P10 and P8 models, driven by five rack-mounted power amps. An optimum configuration was not achievable due to the room layout, so a heavyweight Datasat RS20i processor, and its state-of-the-art room correction system, was utilised to fettle the multichannel sonics in addition to acoustic treatments in the ceiling, walls and curtains.

With the owner wanting to use the room in both blackout and daylight conditions, a high brightness Runco projector was installed.

The entire room is driven by a Savant smart control solution. This too was a challenge as a user-friendly interface had to be programmed that would take into account the setup's 32 motors, as well as the numerous amplifiers, video sources (which include a Kaleidescape server, Sky+HD and Apple TV) and room layouts. To make matters simple for the owner, three one-button preset scenes were created – Full Cinema, Daytime Viewing and Family Room.

Eye-catching outcome

The end result is a fine example of technology working hard behind the scenes to achieve a specific dream – namely a bespoke solution that provides both a usable family space and home cinema getaway. All the hardware is invisible when not required, and the design flourishes, including the ceiling lighting effect and wood panelling, are eye-catching too. It's the sort of setup we'd love to have – but we're scared to ask how much it cost! ■



Artwork graces the main wall when the screen is up



The owner can enjoy movies at 150in



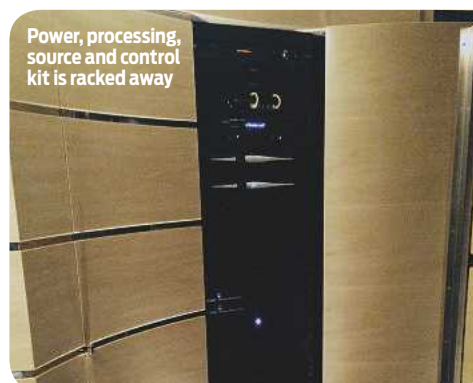
'A fine example of technology working hard behind the scenes to achieve a specific dream'



This was no ordinary home cinema install...



The Runco PJ was selected for its high brightness output



Power, processing, source and control kit is racked away



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YAMAHA

Yamaha RXA 2040
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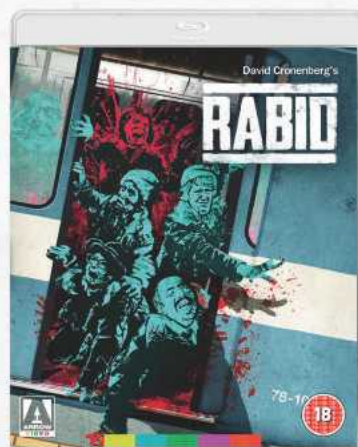
HAPPY NEW YEAR! FROM ARROW VIDEO



19TH JAN



26TH JAN



2ND FEB



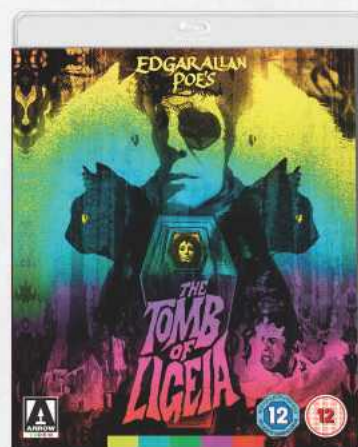
9TH FEB



16TH FEB



23RD FEB



23RD FEB

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REVIEWS

→ **HARDWARE HIGHLIGHTS** SAMSUNG Premium 65in curved 4K TV with High Dynamic Range capability, plus J-series soundbar ACOUSTIC ENERGY 1-Series affordable floorstanders SONY MDR-1A headphones CRYSTAL ACOUSTICS Soundbase speaker with WiSound technology REL Quad-driver cinema subwoofer ROUNDUP Four affordable mid-sized Full HD TVs fight it out **AND MORE**

Built for Blu-ray battle!



Pioneer's tank-like BDP-LX88 is the brand's most accomplished disc-spinner yet. See p46

HCC RATINGS KEY...

Outstanding	★★★★★
Above average	★★★★☆
Acceptable	★★★☆☆
Disappointing	★★☆☆☆
Dire	★☆☆☆☆



**SCOTT
FREE!**

Win a 3D Blu-ray
copy of Ridley
Scott's *Exodus*,
see p34

Samsung's super-bright TV claims
a peak 1,000 Nits output



Samsung has reinvented the TV landscape with this premium LED screen, reckons **John Archer**. Now if only the content world would catch up

Shining a light on Ultra Hi-Def

FOR SAMSUNG, 4K is yesterday's news. Old hat. Water under an ultra high-definition bridge. The brand is already on to the Next Big Thing. What's more, this Next Big Thing isn't just something creeping into 'concept corners' at technology shows. It's already unleashed, on the first new 2015 TV we've had on test: Samsung's UE65JS9500.

This new technology is, of course, High Dynamic Range – or HDR, for short. And it's potentially a bigger deal for TV picture quality than 4K resolution.

As the prosaic name suggests, HDR TVs are all about delivering richer, more vibrant, more contrast-rich and brighter images. Or to put it more straightforwardly, they're about giving you more of everything you like.

As with so much of the best AV stuff, a true HDR experience has a content side and a display side. Content makers have to shoot and, especially, master to HDR specifications, and screens have to have the display characteristics and processing power to churn out all that extra HDR goodness. As AV history (think 3D and UHD/4K) has shown, this need for HDR content is possibly a significant hindrance to the format's adoption. Content makers routinely lag behind the screen hardware. It hardly helps that HDR standards have yet to be fully ratified (the Blu-ray Disc Association, for instance will launch 4K BD with an 'open standard'). But you have to start somewhere, right?

Techno titan

The real nitty-gritty of the UE65JS9500 – and the main explanation for its high £6,000 price tag – lies in the picture technologies crammed into it to deliver on its new HDR promise.

The most obvious specification is the native UHD resolution of 3,840 x 2,160 pixels. Anything less would be unthinkable for a high-end TV in 2015. More unusual is the extremely bright panel design, which is reckoned to be capable of delivering an HDR-friendly peak luminance of 1,000 Nits – well beyond the level of a typical LED-lit LCD TV.

Then there's the nanocrystal technology that Samsung has introduced on the UE65JS9500 to deliver the sort of expanded colour range required for a true HDR experience. Based on Quantum Dot wavelength manipulation systems, Samsung claims it's capable of delivering a much wider colour space than normal LCD TVs. As much as 93% of the Digital Cinema Initiative (DCI) colourscape, in fact.

Chamfered appeal

It's a gorgeous-looking screen, too – suitably resplendent for such a significant TV. The bezel stands out from the crowd with the glinting lustre of its chamfered metal finish and the way it angles sharply back from its outer edges towards the panel. The unusual design seems to funnel you into the picture, an effect enhanced by the fact that the UE65JS9500 features a distinct curved design, in keeping with Samsung's current philosophy.

The only bum-note in the design is how much it sticks out around the back. Couple the natural extra depth caused by the curve with an unexpected chunk of rear-side bulk and you've got a TV which won't lend itself well to wall hanging. The heft is well disguised from the front with the TV mounted on its desktop stand, though.

As has been the way with flagship Samsung TVs of late, the UE65JS9500's connections are all housed on an external

The new Smart remote has been stripped of unnecessary buttons



AV INFO

PRODUCT:
4K TV with super-bright panel and HDR capability

POSITIONING:
Samsung's flagship 65in TV for 2015

PEERS:
Sony 65X9005B;
Panasonic TX-65AX902

One Connect box. This makes all kinds of sense in today's uncertain world, since it means you can update the set with future processing chipsets and even connection types as and when such updates become necessary. Connections on the current box include four HDMI inputs, four USBs, and the inevitable built-in Wi-Fi and LAN network options.

The network jacks deliver DLNA streaming from networked devices or access to the online portions of Samsung's new Smart TV system. This has undergone a considerable revamp this year with the introduction of a TV version of Samsung's Tizen OS. The results of this 'Tizenation' of the Smart environment are strikingly reminiscent of LG's WebOS icon-driven (and iconic) interface. While this is a little surprising considering the companies' rivalry, it isn't a bad thing as it means you get a far more streamlined, slick, unobtrusive and helpful onscreen menu system than was delivered by Samsung's 2014 'net-connected sets. It's now much easier to quickly find content, and app content levels are typically high. It's especially good to see that all the key UK catchup and subscription streaming services are already onboard or coming soon.

The only thing that wasn't up and running at the time of writing was Samsung's previously strong recommendations engine, where the TV highlights content you might be interested in based on your viewing history. This element of the Tizen OS is due to launch in the next couple of months.

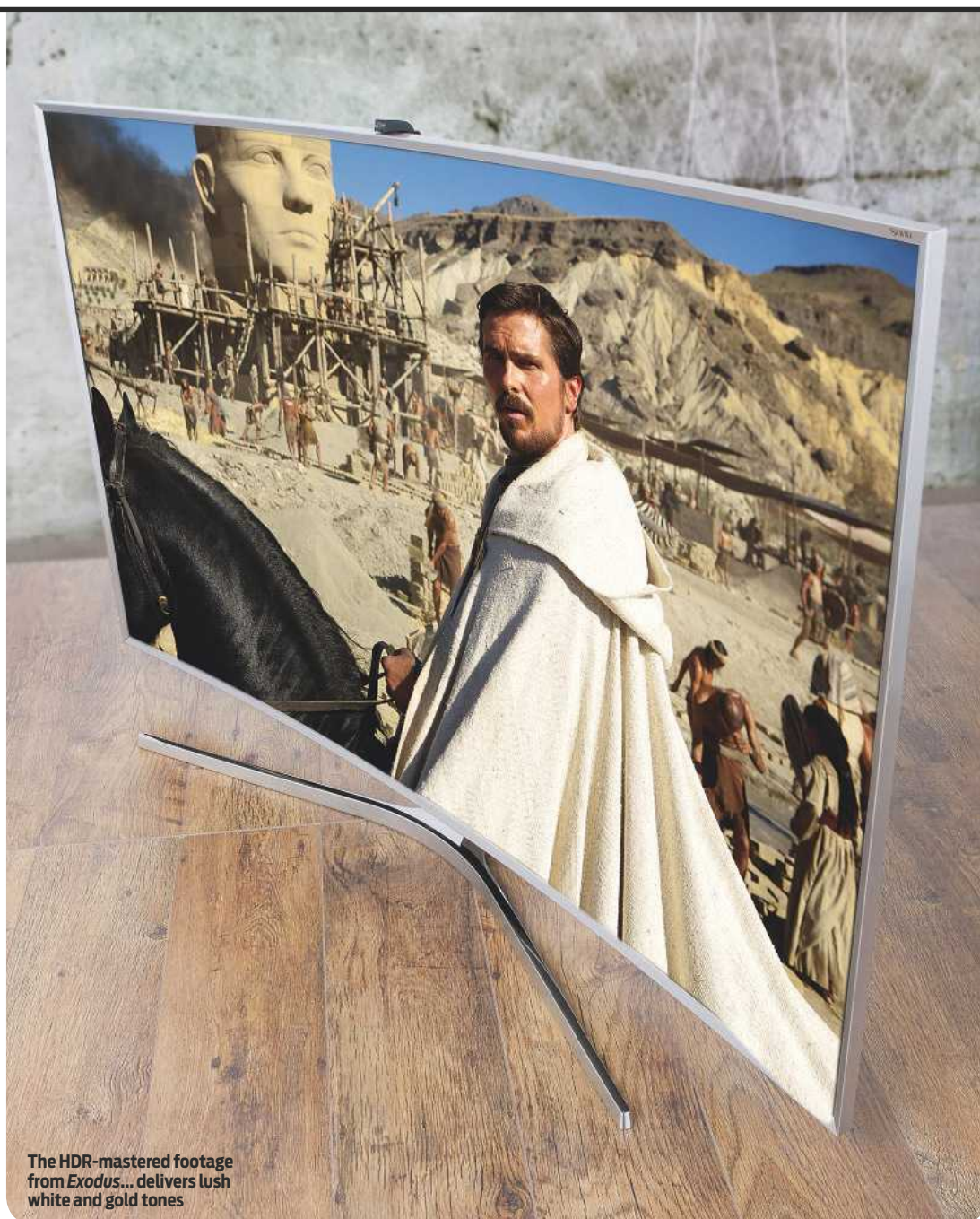
As well as delivering a much slicker, more focused GUI, the shift to Tizen is a boon for people who own Samsung phones from the Galaxy S4 onwards, as it means the TV can automatically forge content-sharing links with your phone without you having to manually establish a connection.

On the whole, Tizen is a colour-rich, intuitive environment that reaps rewards.

Epic performance

Despite all the fine specification talk, nothing prepares you for the instant jaw-dropping spectacle of the UE65JS9500's native HDR pictures. Delivered for this audition from a Samsung-supplied USB stick and comprising specially remastered clips from *Exodus: Gods and Kings* and *The Life Of Pi*, the HDR picture quality step-up is so vast that going back to normal video feels like stepping back to an earlier, infinitely duller period in AV history.

It's the most extreme aspects of the HDR experience that strike you first. Fearsomely bright and pure whites at one end of the spectrum sit right alongside what might well be the darkest blacks I've seen from an LCD TV. The contrast range is instantly dazzling. Frankly, I'd never expected to experience such an effect from LCD technology. This is especially the case with the highly stylised,



The HDR-mastered footage from *Exodus...* delivers lush white and gold tones

stretched-contrast images of *Exodus: Gods and Kings*. Scenes like the parting of the waves and the shots of burning houses at night across the Nile appear so dynamic and punchy in HDR that it's hard to take it all in. Perhaps the most useful comparison I can make is that images have the sort of luminous qualities previously only seen at a good digital cinema.

Colours enjoy extremes of tone that I haven't witnessed before. *The Life Of Pi*'s gorgeously rich zoo scenes and the famous sequence where the whale launches itself from the glowing night-time sea all enjoy an exquisite level of saturation. What's more, nothing about this vastly expanded saturation feels unnatural or forced; it just looks more cinematic and, for want of a better description, more 'right'.

It's remarkable to see, too, how these extraordinary colours are propelled forth by ground-breaking levels of brightness without



Samsung is continuing to curve much of its TV range, including the flagship UE65JS9500 and its 78in and 88in siblings. The curve is designed to mirror that of a human eyeball, fact fans.

the darkness of black levels being compromised at all, and without causing any obvious signs of backlight clouding. Another key specification of the UE65JS9500 brings benefits here: a direct backlight system, where the LEDs sit right behind the screen, driven by a local dimming engine that can independently address the brightness of the LED clusters.

The colour of money well spent

Having adjusted to the new image extremes native HDR playback delivers, I started to spot other important new tricks HDR brings to the party. Lying between the colour and contrast extremes is a subtle and expressive range

'Samsung's curvy 65-incher feels like a game-changer – it's nothing less than a new TV reference'

of luminance and colour tones. These infuse images with incredible amounts of shadow detail during darker sequences, and levels of colour accuracy and finesse at all times that eke out extra quality and clarity from native UHD pictures. Shots across *Exodus*'s large battlefields or cityscapes, especially at night, contain a sense of depth, detail and vividness that you'll want to bathe in.

I can therefore instantly understand why the AV industry has shifted its gaze from merely adding more pixels to next-generation pictures to making those pixels work better. It's also easy to see why content creators are jumping behind HDR in a way that, perhaps, they haven't done with UHD, given the enormous impact it can deliver with relatively little creation effort and much smaller data size/streaming bandwidth requirements. Though having said that, HDR and UHD already feel to me like the proverbial horse and carriage. They just belong together.

To bring the impact of the Samsung screen's HDR capabilities into sharper focus, I ran the HDR *Life Of Pi* clips against the 4K Samsung Video Pack transfer of the same film on a normal – but good quality – UHD TV. And this head-to-head underlined just what an impact HDR has, as the standard version looked positively dim and washed out by comparison. And I've previously considered the Samsung UHD Video Pack transfer to be pretty impressive.

There is, of course, something sadly ironic about the greatness of the full HDR experience. After all, no normal consumer will be able to get their peepers on it for a good few months at least, until Netflix (which will start with a very limited content library) or

UHD Blu-ray come of HDR age. Just as well, then, that the screen tech Samsung has developed to pursue its HDR dreams also greatly benefits regular content. Colour and contrast appear clearly subdued with non-HDR material, but the nanocrystal colour system, local dimming and the extra brightness offered by the panel combine to offer a punchy, dynamic performance.

The UE65JS9500 has an extensive picture calibration suite. This includes colour and white balance management and a fairly good level of control over the TV's processing options. There's also a mode that emulates the old Rec 709 colour system. Died-in-the-wool standards freaks can select this if they don't want their BD collection to be given a pseudo HDR makeover. Personally, though, I'd argue that Rec 709's time is well and truly up.

Spex appeal

Samsung's range-topper also plays its part in 3D's current quality (if not popularity) renaissance. As usual with the brand, it's an Active design, which means upscaled-to-4K BDs lose none of their resolution impact. And the boost in panel brightness and colour response ensures stereoscopic images have plenty of intensity to go with their sharpness and depth. I spotted only rare and subtle traces of crosstalk noise despite the image's brightness, leaving some motion judder (and a few processing artefacts if you try to defeat the judder) as the only significant 3D flaw. Motion handling with 2D material isn't best-in-class either, actually.

Other picture issues include some slightly over-aggressive oranges and reds, and occasional bleached-out whites, with non-HDR content if you watch it 'stretched' to take account of the screen's wide colour capabilities. And there's the recurring issue with preset picture modes; Dynamic, Natural and Movie all hinder the TV's potential. I found Standard to be the best default option for those afraid to tinker.

The Samsung's audio isn't as bleeding-edge as its pictures. Heavy bass can leave the speakers sounding strained, and the sound lacks attack versus the best integrated TV audio efforts. That said, the soundstage is large and moderately detailed, doesn't ever sound unpleasant, and delivers voices with a nicely rounded and realistic tone.

Overall, it's clearly a shame that the UE65JS9500's HDR party trick can't actually be used right now due to a dearth of material. Furthermore, the £6,000 price of entry will put it far beyond the reach of most households. However, to straightforward lovers of TV picture quality this curved 65-incher feels so game-changingly brilliant and ahead of its time that it's impossible to see it as anything less than a new reference product. I can't wait to see how Samsung's rivals react ■

ON THE MENU



→ The UE65JS9500 uses Samsung's new Tizen-powered interface, which proves much slicker and more intuitive than last season's multi-panel approach. Dig into the settings and there's a good range of calibration options, too

SPECIFICATIONS

3D: Yes. Active
4K: Yes. 3,840 x 2,160
TUNER: Yes. Freeview HD, Freesat HD
CONNECTIONS: HDMI x 4; USB x 4; RF input; LNB input; composite video input; Ethernet; integrated Wi-Fi
SOUND: 60W
BRIGHTNESS: 1,000 Nits peak
CONTRAST RATIO: 'Mega'
DIMENSIONS (OFF STAND): 1,451(w) x 849(h) x 125(d)mm
WEIGHT (OFF STAND): 32kg
FEATURES: HDR capability; 1,600Hz motion processing; colour and white balance management; Tizen-powered Smart engine; Precision Black local dimming and direct LED lighting; super-bright Ultra Clear Pro panel design; nanocrystal colour technology; USB and DLNA multimedia playback; Standard, Dynamic, Natural and Movie picture presets; screen mirroring; voice and motion control

HCC VERDICT



Samsung UE65JS9500

→ £6,000 approx → www.samsung.co.uk

→ Tel: 0330 726 7864

HIGHS: Dazzling HDR pictures; non-HDR content also impresses; improved Smart engine; external connections box; premium build

LOWS: It's very expensive; curved design is divisive; no native HDR content yet, not much 4K either...

Performance ★★★★★

Design ★★★★★

Features ★★★★★

Overall ★★★★★

This is quite possibly the finest HD disc player in the world right now, says a love-struck [Steve May](#)

Redefining the art of Blu-ray



The full-width BDP-LX88 weighs over 13kg

MUCH LIKE THOR'S Uru hammer, only the home cinema worthy will be able to lift Pioneer's mighty BDP-LX88 Blu-ray player. Tipping the scales at an enormous 13.4kg, it boasts more armour than Brad Pitt's tank, and is heavier than many AV receivers.

This is, of course, a good thing. In a world of disc-spinning flotsam, the likes of the BDP-LX88 are rare and wonderful things. But there's much more to Pioneer's new flagship player than bulk. This deck delivers every possible playback refinement, cherishing legacy standards (yes, your DVD-Audio and SACD discs are welcome here) and welcoming new ones (4K upscaling to 2,160p is a given).

Indeed, everything about the BDP-LX88 is impressive. Insanely over-engineered and blessed with a veritable science lab of advanced image and audio processing, it's capable of first-rate AV alchemy. Whatever goes in comes out a magnitude better.

As befits its upmarket profile, there's an intriguing smorgasbord of connectivity, including dual HDMI outputs, coaxial and

optical digital audio outputs, and both balanced and unbalanced analogue audio outputs. There's no Wi-Fi, but you obviously get Ethernet plus front and rear USB ports.

The Main/Sub HDMI outs can be configured in several ways. Users can mimic the output from both, in order to drive both a panel and a PJ. Alternatively, you can separate sound from vision, one output feeding a display while the other delivers audio only to an AVR. There's also a Pure Audio mode, where the only output is audio via the Sub HDMI.

One connection I've not encountered on a Blu-ray player before is a Zero Signal terminal. This phono doesn't deliver any sound or vision, but connects to the Blu-ray player's ground, or earth. The idea is to tether it to an unused phono input on your AV receiver (at last, something to do with those composite legacy inputs!) and thereby harmonise the GND reference level between the two devices. Apparently this is beneficial; while I couldn't actually hear any difference, I took panacean pleasure from the process.

The chassis itself has black box-like integrity. A multi-layer design sees the 1.6mm base reinforced with a 3mm-thick plate to ensure absolute rigidity. The chances of any external vibration making it through would seem negligible. Steel frames shore up the innards and sides. Just for good measure, a 1mm-thick steel plate tops things off.

By default, the deck's display is clear but overly bright. It can be dimmed or switched off entirely from the remote. The latter itself is an ugly button-fest, wilfully ignoring recent trends toward simplicity. You'll (eventually) know how to use it, but no one you hand it to will.

Disc loading times aren't great either.

A simple Java-lite concert disc takes a slow 40 seconds to get from open tray to onscreen menu. A more Java-heavy platter does the same in an agonisingly slow 62 seconds. Perhaps this is because the drive mechanism is overly cosseted? The acoustically dampened disc tray doesn't actually touch the chassis itself, beyond the damper springs.

Picture processing tech is formidable. Pioneer's Precise Pixel driver features HD detail enhancement and Triple HD Noise Reduction, which conspire to extract as much genuine detail from sources as possible. Image irritations such as Gaussian, block and >



AV INFO

PRODUCT: Flagship universal Blu-ray player

POSITIONING: Tops Pioneer's player range, sitting above the BDP-LX58

PEERS: Oppo BDP-105D; Arcam UDP411

Let's face it: there are way too many buttons on this remote



The stereo audio output comes balanced or unbalanced

mosquito noise are all subjected to clean-up. The result is evidenced with certain BDs – *Hunger Games* gains an almost futuristic sheen but never looks anything other than filmic – and really becomes noticeable on DVDs.

Well-encoded Blu-rays look superb. It's enough to tempt me to watch *Transformers: AoE* again. Canny texture enhancement is used alongside edge processing to bring out subtle levels of depth. You can influence this using the Super Resolution tool in the deck's Video Adjust menu.

This menu is exceedingly powerful, in fact. It allows 13 different items to be tuned, from brightness and chroma to resolution and assorted noise. There are also six presets, optimised for panel and projection display.

'Well-encoded BDs look superb. It's enough to tempt me to watch *Transformers: Age of Extinction* again'

Choose from Digital Cinema (for animation), Digital Film, Live (for concerts), or a Reference mode which allows all sources to play sans any additional processing.

Perhaps surprisingly, I often preferred the Live setting, which seems to improve contrast and reduce glare, even on the BD release of *The Walking Dead*, which is the epitome of stylised film grain. I suspect the effect these presets will have will vary depending whether you use a plasma or LCD display, but they are certainly worth experimenting with.

Where the player falls obviously short is in the non-provision of network streaming services. Even ubiquitous offerings such as BBC iPlayer and Netflix are absent – we're grudgingly offered just YouTube and Picasa clients. At least you can stream video and audio content from networked storage. The player is DLNA 1.5 compliant, and can act as a Digital Media Renderer. File support is extensive. MKV, AVI, WMV and MPEG video files all play, while audio support extends from APE to DSD. To maximise the performance of IP content, a Stream

Smoother can be used to reduce block and mosquito noise on low-bitrate sources.

The player does exhibit foibles when networking, hanging when navigating connected sources. I have no qualms about its musical performance, though. Left and right channels are served by an ESS Sabre Reference DAC (ES9018), and spatial imaging is pronounced. Bowie's *Soul Love*, from the SACD of *Ziggy Stardust*, proves a mesmerising listen, the kind that stays with you for days. It's audiophile-grade stuff.

Normally on higher-spec players like this, an analogue audio feed is the best way to listen to music. But this Pioneer sounds gorgeous through HDMI as well.

An onboard audio scaler comprises a trinity of processing tools, dubbed Hi-Bit 32, Up-Sampling and Digital Filter, either through manual tweaking or auto mode. Hi-Bit 32 increases the dynamic range of disc media, be it CD, DVD or Blu-ray, by requantizing 16-, 20- and 24-bit PCM to 32-bit, literally smoothing the audio signal; Up-Sampling reduces noise in the audible range, with variable Off, 2x or 4x sampling rates; Digital Filter allows for subtle shifts in the character of music – it eliminates pre-echo and can be set Sharp to emphasise transients or Slow for a warmer nuance.

For owners of compatible Pioneer AV receivers, the BDP-LX88 features PQLS (Precision Quartz Lock System) over HDMI to minimise timing errors.

Superlative swansong?

In every sense, the BDP-LX88 is remarkable. It's probably the best Blu-ray player Pioneer has ever made. Significantly, it offers better legacy disc support than the recent Arcam UDP411, and matches the Oppo BDP-105D in audio visual prowess, and outdoes it when it comes to musicality (although the Oppo offers better connectivity and control). There are feature shortcomings, but not enough to dampen my enthusiasm.

There's a certain poignancy to the BDP-LX88, too. I'd bet this was conceived before Pioneer flogged its AV division off to Onkyo, and could represent the last great hurrah of Pioneer's best boffins. Supposition of course, but if this is their swansong, it's an utterly brilliant one ■

ON THE MENU



→ The UI is nothing like as snazzy as, say, LG's WebOS interface, but the text-heavy menus are sharp – and there are plenty of processing tweaks to play with

SPECIFICATIONS

3D: Yes
UPSCALING: Yes. To 2,160p (60fps)
MULTIREGION: No. Region B BD/R2 DVD
HDMI: Yes. 2 x HDMI v2.0
COMPONENT: No
MULTICHANNEL ANALOGUE: No
DIGITAL AUDIO OUTPUT: Yes. 1 x optical; 1 x coaxial digital
ETHERNET: Yes
BUILT IN WI-FI: No
SACD/DVD-A: Yes/Yes
DOLBY TRUEHD/DTS-HD DECODING: Yes/Yes
DOLBY TRUEHD/DTS-HD BITSTREAM: Yes/Yes
DIMENSIONS: 435(w) x 130(h) x 339(d)mm
WEIGHT: 13.4kg
FEATURES: Balanced and unbalanced stereo analogue outputs; 2 x USB inputs; app control; a multitude of picture processing modes; RS-232 control; YouTube and Picasa apps; DLNA media playback; AAC, AIFF, ALAC, DSD, FLAC, MP3, APE, WAV and WMA for audio, AVI, FLV, MKV, MPEG4, MPG, and WMV for video; PQLS over HDMI; triple-layer chassis design

HCC VERDICT



Pioneer BDP-LX88

→ £1,300 approx → www.pioneer.co.uk

→ Tel: 0208 836 3501

HIGHS: Supreme build quality; excellent video performance; uncanny musicality; powerful signal processing options

LOWS: Will be overly complex for many; token streaming services; prone to hanging when navigating networked sources; slow disc loading

Performance ★★★★★

Design ★★★★★

Features ★★★★★

Overall ★★★★★

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Ed Selley discovers this floorstanding array offers good value

Acoustic Energy savers!

BRITISH SPEAKER MARQUE Acoustic Energy may be famed for the potent AE1 standmount stereo speaker that put it on the map, but it is keen on multichannel audio too, consistently producing subwoofers and centre channels for its various ranges. The 1-Series is its newest – and most affordable – arrival.



AV INFO

PRODUCT: Affordable floorstanding 5.1 package

POSITIONING: Below the 3-Series, Radiance and Reference ranges

PEERS: Cambridge Audio Aero; Tannoy Mercury Vi



The entire range is actually represented in the package reviewed here – there are no step-up/step-down 1-Series models. The 101 standmount and 103 floorstanders are sold as stereo pairs while the 107 centre speaker and 108 subwoofer add the multichannel magic. All the passive speakers are built around the same combination of a 1in soft dome tweeter and 4.5in anodised aluminium mid/bass driver. Having the same driver compliment across the five speakers augurs well for a seamless handover.

The design of the 1-Series speakers is relatively conventional (if a little *2001: A Space Odyssey*) but there are some interesting touches. The first is that, like Acoustic Energy's more expensive 3-Series, all of the speakers use a front-mounted slot port. This design allows for air to vacate the cabinet with less chance of audible noise; the slot is, I'm told, less prone to chuffing than a circular one of the same cross section. Front placement ensures that they can be placed close to rear walls without issue as well.

The 103 floorstander also apes the form of the more expensive 3-Series by angling the front panel backwards. This presumably aids the time alignment of the drivers. It also serves to reduce the visible bulk of the design. The final appearance is a bit of an acquired taste, especially in the black finish shown here, but the overall size of the speaker (it's less than 30cm deep) should be easy enough to accommodate in your den.

The 108 subwoofer is also fairly compact, and resolutely cuboid in shape. Built around a downward-firing 8in driver, it is fairly unusual as it uses a 150W Class AB amplifier (complete with external heatsink) for power. As well as the usual selection of inputs and dials, the woofer is also supplied with a remote control. This, again, is pretty rare (especially at this price point – the 108 sells for only £350). I'm a fan, though: like many convenience items, a subwoofer remote is something you never knew you needed until you've lived with one.

Doubling up on bass

Modestly specified, the 108 is not the sort of device that is likely to liquify your internal organs. Acoustic Energy rather brilliantly feels that it has a solution to this – the website makes it quite clear that the company feels the most effective use of the 108 is as a pair. This is undoubtedly effective, but does mean you'll be spending almost as much on the subwoofers as you are on the rest of the speakers. The full 5.1 package price is around £1,400.

The overall design and feel of the 1-Series is very positive. As mentioned, the black finish is not the most beautiful use of vinyl wrap you'll see this year (there's a walnut vinyl option that is perhaps a bit more classy) but >

the build and general attention to detail is good. There are some nice little touches that don't always make their way down to this price point, too. The speaker grilles use magnetic trim tabs, while the speaker terminals all accept various speaker terminations and feel usefully sturdy. This is a relatively affordable set of speakers but it never feels that corners have been severely cut to make it that way.

A final welcome feature of the speakers is that with 6 ohm minimum impedance and reasonable sensitivity, they should be easy for all but the most anaemic of AV receivers to drive without incident. Acoustic Energy is clearly gunning for customers who might have been considering sub/sat packages but can be persuaded into going for a sensibly-sized conventional array.

Getting the basics right

The temptation will be stronger if that customer sits down and listens to the 1-Series because this is a very likeable package indeed. Connected to my Yamaha receiver and Cambridge Audio BD deck, it doesn't take very long to establish that all of the basics

'The 1-Series is well-built, reasonably attractive and offers a pleasing all-round performance'

that make for a good sonic performance are here. As you might hope with the same two drivers fitted across all five speakers, there's a fluid movement of audio from speaker to speaker. Across the front three in particular, the 1-Series presents an even and cohesive wall of sound.

This is helped in no small way by the 107 centre speaker, which avoids an issue that some rivals at this price point have by employing the same size drivers as the 103, and in a fairly large box. This means that it sounds convincing at holding dialogue on screen and linking the left and right channels together. The claimed low frequency response of 45Hz is hardly seismic, but it allows for the 107 to handle enough of the onscreen action itself, before handing over to the subwoofer, to be convincing.

The other area where the 1-Series is especially strong is its overall refinement. Even driven very hard, these cabinets manage to stay smooth and civilised, without coming at the expense of detail and impact. The street fighting sequence in the brilliant WW2 tank drama *Fury* is a dense and chaotic mass of sound effects but the 1-Series does a commendable job of making some sense



4.5in mid/bass drivers are used on all 1-Series models

of this wave of information. The soft dome tweeters add a pleasing sense of attack to the cracking artillery fire.

And given its relatively small size, the 108 sub does a nice job of augmenting the low end of the other cabinets. The decision to use an 8in driver is justified; while this pack can't go as deep as rivals with larger woofers, the speed and cohesiveness of the sound is very welcome. The remote control really is useful, too. The ability to gently tweak the sub level to better suit what you are doing at the time is something that adds to the 1-Series' appeal. It's easy to give bass a little boost at lower listening levels and maintain a sense of force that would otherwise be missing.

Against these positive comments there aren't many negatives. Performance is certainly at its best at medium to volumes, the speakers can lose some of their excitement and, importantly, scale at lower levels. Meanwhile, the 103 floorstander, while a very capable speaker in stereo, can sound a little matter of fact and not as entertaining as something like Tannoy's similarly-priced Mercury V4i.

Filmic fun comes first

If you are buying speakers predominantly for use with multichannel movie soundtracks, rather than listening critically to Dire Straits' *Brothers in Arms* over and over again, Acoustic Energy's 1-Series is a very strong option. This is a well-built, well-designed and reasonably attractive set of speakers that should be easy for any remotely suitable AV receiver to kick into shape. It offers a pleasing all-round performance and excellent integration between speakers.

The £1,400 price point should be enough to tickle the fancy of those otherwise considering a sub/sat package. And if you have the space in your cinema room for something of this size, the 1-Series definitely delivers an increase in scale and impact over the small-box competition. In that regard, and if your budget can't stretch any higher, the 1-Series deserves to be on your shortlist ■

SPECIFICATIONS

ACOUSTIC ENERGY 103

DRIVE UNITS: 2 x 4.5in anodised aluminium mid/bass drivers; 1 x 1in soft dome tweeter
ENCLOSURE: Front slot-ported
FREQUENCY RESPONSE: 40Hz-32kHz
SENSITIVITY: 89dB
POWER HANDLING: 175W
DIMENSIONS: 185(w) x 850(h) x 280(d)mm
WEIGHT: 14kg

ACOUSTIC ENERGY 101

DRIVE UNITS: 1 x 4.5in anodised aluminium mid/bass driver; 1 x 1in soft dome tweeter
ENCLOSURE: Front slot-ported
FREQUENCY RESPONSE: 48Hz-32kHz
SENSITIVITY: 88dB
POWER HANDLING: 150W
DIMENSIONS: 185(w) x 300(h) x 280(d)mm
WEIGHT: 6kg

ACOUSTIC ENERGY 107

DRIVE UNITS: 2 x 4.5in anodised aluminium mid/bass drivers; 1 x 1in soft dome tweeter
ENCLOSURE: Front slot-ported
FREQUENCY RESPONSE: 45Hz-32kHz
SENSITIVITY: 88dB
POWER HANDLING: 150W
DIMENSIONS: 450(w) x 185(h) x 260(d)mm
WEIGHT: 9kg

ACOUSTIC ENERGY 108 (SUBWOOFER)

DRIVE UNITS: 1 x 8in downward-firing pulp fibre bass driver
ENCLOSURE: Sealed
FREQUENCY RESPONSE: 38Hz-120Hz
ON BOARD POWER: 150W (Class AB)
REMOTE CONTROL: Yes
DIMENSIONS: 280(w) x 280(h) x 280(d)mm
WEIGHT: 10kg
CONNECTIONS: LFE in; stereo phono in/out

HCC VERDICT



Acoustic Energy 1-Series

→ £1,400 approx → www.acoustic-energy.co.uk

→ Tel: 01235 511166

HIGHS: Well-built and well finished; refined and cohesive sound; easy to drive; keenly priced

LOWS: Not the prettiest speakers going; a little restrained at lower volumes; subwoofer doesn't go particularly deep

Performance ★★★★★

Design ★★★★★

Features ★★★★★

Overall ★★★★★

"BARNSTORMERS"

SVS 2000 Series Active Subs



“Feed it a movie soundmix and the SB-2000 provides hair-raising levels of low-frequency fun...smartly designed, easy to setup and a treat to listen to.”



“The SVS (PB-2000) is able to integrate with pretty much any speaker in a way that is deliciously seamless. This all-round ability makes the SVS something of a star.”

Ed Selley
Home Cinema Choice
Feb 2015





The Teevy 6 uses two down-firing bass drivers

This neatly-styled soundbase speaker reckons it can eliminate the sweet spot. **Adrian Justins** puts that claim to the test

The gift of WiSound

THE COUNTRY THAT gave us democracy, philosophy and, er, ouzo may be in an economic jam but Greece isn't finished yet. Native brand Crystal Acoustics has what it hopes is a major contribution to home cinema in the form of WiSound. Developed in conjunction with boffins at the University of Patras, this tech claims to up the ante for audio from a single-box product.

Crystal Acoustics is now selling direct to UK consumers the Teevy 6 soundbase, one of its new Reference Wireless Series of speakers that uses WiSound. Its inventors claim WiSound can create an 'incredibly dispersive, dynamic and consistent audio delivery throughout every part of a room.' Let's hope it's not a Trojan Horse.

Point your browser at Crystal Acoustics' website and you'll discover no shortage of information about the research and development of WiSound, which meets the ANSI/CEA-2034 latest industry standard for loudspeakers. In a nutshell, a combination of

full-range, midrange and high-frequency drivers are placed at the sides and at the front of the speaker. Throw in some DSP jiggery-pokery to balance the split between direct and reflected sounds and the result is a 'Balanced Directivity Response' with wide dispersion in the horizontal and vertical plane, plus an extremely flat in-room response. In WiSound world the sweet spot is where you keep your Baklava [*that's enough Greek gags now – Ed*], and wherever you sit or stand in the room you should hear exactly the same sound. Which is quite a claim.

At 80cm wide the Teevy 6 is one of two soundbases in the Reference Wireless Series portfolio (the smaller Teevy 5 is 60cm wide). Both models can be mounted horizontally on a table top or, it's suggested, vertically mounted on a wall. Be warned that screens that are over 42in without pedestal stands won't fit on it, but you can always tuck the soundbase on a shelf in your AV stand.

Straight to da man (or woman)

Selling direct to the public, Crystal Acoustics aims to provide decent-quality products at affordable prices. Its designs are good, while build quality is usually up to scratch and commensurate with the price tag. The Teevy 6 is no different, being rather nice to look at, with a rock-solid enclosure made from MDF and a fabric grille across the front and sides. There's no display window, just a single LED light behind the grille. The only design flourishes are slightly curved front edges and



AV INFO

PRODUCT: Soundbase speaker

POSITIONING: The larger of two Teevy models

PEERS: Canton DM50; Cambridge Audio TV2; Panasonic SC-HTE80

an aluminium plate embossed with the name of the product and the WiSound logo.

The speaker array consists of four 2in drivers, two forward-facing and two on the sides, plus two 5.15in subwoofers on the underside. Socketry is all around the back, and comprises a single digital optical input, 3.5mm aux and stereo analogue inputs, plus the power input. There's also a USB for charging smartphones, etc., which is not located in the most accessible place. Another gripe is that the sockets aren't recessed so you'll see all your cables dangling down if wall-mounting the unit.

The perfunctory design ethos extends to the miniature credit-card remote with blister buttons for volume, mute, inputs and Bluetooth pairing (audio streaming of the CD-quality apt-X variety is provided).

Soundbases don't get much simpler to operate than the Teevy 6 (the colour of the LED confirms its status) and it's no slouch in responding to commands from the remote.

Sonic smorgasbord

WiSound's claim about delivering widely dispersed sound proves justified. With both music and video I would say that the effect is not such that you don't sense the direction of the source, more that it doesn't vary in its intensity and directionality as you move around the room, including variable heights. The sweet spot hasn't so much gone as been spread about.

However, that evenly-dispersed sound has some good qualities but in no way do you feel that individual effects emanate from anywhere

other than the central speaker opposite you. There's no magic surround sound trick here.

More noticeable is an unevenness in response through the dynamic range, specifically an over-enthusiastic and bloated bass. At the start of sci-fi sequel *Dawn of the Planet of the Apes* (Blu-ray) the sounds of the storm come across highly detailed, including the rain, thunder and breathing of Caesar in the forest. The 'oooh, oooh' of the apes jumping through the canopy transports you easily to the woods, and, as they chase the deer, the rumble of hooves and high-pitched simian screams are all delivered with appreciable clarity. The growl of the bear as it emerges from the undergrowth, however, lacks finesse, and as the apes ride back through the forest to their camp the bass drum effect is simply too strong and lacks subtlety. Mid- and high-frequency sounds such as Maurice the orangutan nattering to the young 'uns, and Caesar's sighing, are more nuanced and effective.

Musically, the Teevy 6's bass weight is also prone to impairing the overall goodness done by the smaller drivers. *Champions of Red Wine* by the New Pornographers (streamed at CD-quality via Tidal) has lovely smooth vocals and a lively synth, but the bass feels a bit flabby at times.

Overall, then, the Teevy 6 is a mixed bag. Its dispersion is indeed highly impressive and mid-to-high frequencies have good clarity. You can crank it up loud without fear of distortion, and the styling (and price point) are attractive. Yet the lack of bass management is something of an Achilles' heel ■

SPECIFICATIONS

DRIVE UNITS: 4 x 2in mid-range/tweeters; 2 x 5.15in subwoofers

AMPLIFICATION (CLAIMED): 100W

CONNECTIONS: Optical digital audio input; 3.5mm input; USB input; stereo phono analogue input

DOLBY TRUEHD/DTS-HD MA: No

SEPARATE SUB: No

REMOTE CONTROL: Yes

DIMENSIONS: 800(w) x 95(h) x 305(d)mm

WEIGHT: Not given

FEATURES: Bluetooth apt-X; wall-mountable; 35Hz-27kHz claimed frequency response; WiSound wide dispersion; Class D amplifier; MDF enclosure

HCC VERDICT



Crystal Acoustics Teevy 6

→ £270 approx → www.crystalacoustics.com

→ Tel: 020 8133 7066

HIGHS: Widely dispersed sound; solid construction; easy to use; good clarity; apt-X Bluetooth streaming

LOWS: Over-enthusiastic bass response; no bass management; no DD or DTS decoding

Performance ★★★★★

Design ★★★★★

Features ★★★★★

Overall ★★★★★

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Home Cinema Choice, May 2014

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Spitfire 24-12 SL

TV temptations

With sub-£400 price tags and fulsome feature sets, these 40 and 42in Full HD screens are the ideal centre-piece for an affordable, Smart setup. **John Archer** picks his favourite

OCEAN ACTION

Jude Law stars in submarine thriller *Black Sea* on Blu-ray, p96



PANASONIC TX-42AS520
Freetime catchup will appeal to telly addicts

SAMSUNG UE40H5500
Feature-rich edge-lit Smart screen

SONY KDL-40W605
Budget Bravia packs a picture quality punch

TOSHIBA 42L6453DB
Auto recording system impresses

Panasonic TX-42AS520

Yes, it's only got two HDMI inputs, but there's still plenty to like about this bargain-priced Viera



RECENTLY, PANASONIC HAS been getting markedly more aggressive on price. We're kicking off this group test with a 42in TV, the 42AS520, that costs just £380 – despite being anything but feature-light.

Its onboard Freetime system brings you all the key UK catch-up TV services in a friendly interface that lets you scroll back through TV listings as well as forwards. The screen also manages 100Hz processing despite its cheapness; carries built-in Wi-Fi supporting both DLNA multimedia streaming and access to Panasonic's decently numerous online Smart TV services; and provides a USB port as a further multimedia playback option.

The design is suitably flash with a silver finish, cute open-frame stand and slim frame. The panel itself employs a Full HD resolution and is illuminated by edge LED lighting.

The only up-front sign that this is in any way a budget TV is its provision of just two HDMI inputs, which could cause some headscratching – even if the TV is going into a second room.

In need of a tune-up

First impressions of the 42AS520 in action aren't great, as its pictures look over-aggressive, short of texture and detail, and bleached in bright areas. But it turns out that pictures don't have to look this way; the set is

just falling victim to some extremely unhelpful presets. Calming the colour and contrast settings and making sure the noise reduction system is turned off when watching HD content have an immediate beneficial impact, and – unexpectedly – I also found its black level response benefitted from leaving the Ambient Sensor on (not something I'd typically recommend).

Make these simple changes and the imagery becomes decent. Colours look quite vibrant, but natural in tone and smoothly blended. Pictures aren't pin-sharp, but you can easily appreciate the difference between the Blu-ray and DVD versions of *The Hobbit: Battle Of The Five Armies*. And images look free of the noise that can creep into pictures on TVs that push too hard for sharpness.

I was also pleased by how well the Panasonic upscales standard-definition broadcasts without emphasising source noise or losing its grip on colour tones.

It's a testament to the quality of a couple of other TVs in this group test, though, that 'decent' pictures aren't enough to bag the 42AS520 a strong recommendation despite its affordability. The main issues highlighted by the star models of this roundup are an average black level response and resolution loss over motion. Both of these are amply demonstrated

during *The Hobbit* sequences of Smaug attacking the village at night: the darkness of the sky and lake feels rather grey and flat, while Smaug's flames seem soft and even slightly blurred versus the rest of the picture. You can improve the black level if you really hammer the TV's backlight setting, but by the time you've got it looking good there isn't much brightness left in the picture.

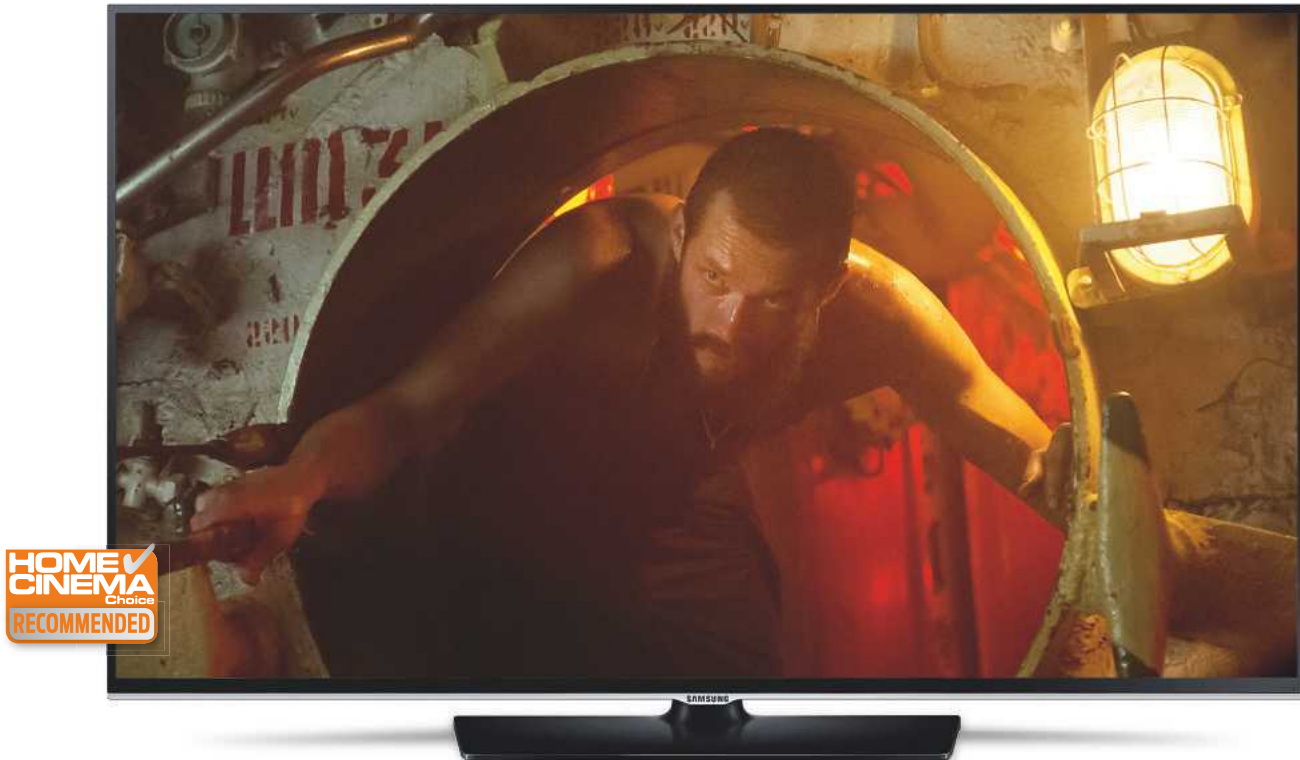
It's unlikely that anyone who buys a 42AS520 will be disappointed. But, as we'll see, the level of competition is strong.

SPECIFICATIONS

3D: No
ULTRA HD: No, 1,920 x 1,080
TUNER: Yes, Freeview HD
CONNECTIONS: HDMI x 2; USB; RF input; Scart input; component video input; composite video input; optical digital audio output; headphone port; Ethernet port; built-in Wi-Fi
SOUND: 2 x 10W
BRIGHTNESS (CLAIMED): N/A
CONTRAST RATIO (CLAIMED): N/A
DIMENSIONS (OFF STAND): 963(w) x 60(d) x 550(h)mm
WEIGHT (OFF STAND): 9kg
FEATURES: Freetime service built-in; customisable My Home Screen Smart TV system; Smart TV services including Netflix and BBC iPlayer; 100Hz processing; Ambient Sensor; app control

Samsung UE40H5500

A quad-core processor keeps this 40in set up to speed with its Smart skills



ONCE UPON A time not so long ago spending just £350 on a 40in TV would have got you a fuzzy-looking screen and precious little else. With this Samsung, though, you not only get a content-rich and brainy Smart TV system, you also get pictures so good they shame some TVs costing nearly double.

But I'm getting ahead of myself. Your first point of contact with the UE40H5500 is its design, which combines a frame that's thin for a budget set with an attractive mixture of black and silver colourings. The finish feels a touch plasticky, though, and it's chunky round the back, but neither of these things will trouble you from a typical viewing distance.

There are three HDMI inputs here versus the Panasonic's two, and a pair of USB inputs. The latter, together with built-in Wi-Fi, give you plenty of flexibility for gorging on multimedia files, while Wi-Fi also opens the door to Samsung's Smart TV system. I've covered this in depth before, but to briefly recap, while the interface is a bit ungainly, the amount of video streaming and catch-up services it offers, as well as the sophistication of its recommendations system, is rather neat.

Key specifications include a Full HD screen, edge LED lighting, a 100Hz processing system, and a powerful quad-core processing engine that should help improve

picture quality as well as keep the Smart features ticking along smoothly.

Tweakers' paradise

The UE40H5500 hasn't given much explanation for its low price so far. And this feeling continues with its picture setup tools, which include white balance and colour space fine-tuning, as well as separate black tone and dynamic contrast settings. It's worth using these tools too, as Samsung joins Panasonic in not providing particularly helpful picture presets. The main thing to do is substantially reduce the backlight setting to prevent the screen suffering with backlight inconsistency.

Once tweaked, the UE40H5500's pictures are way better than you've any right to expect, and it rises to the challenges posed by the extreme sharpness and contrast deployed by my *...Five Armies* Blu-ray. The dark scenes inside Erebor are credible and cinematic, with black picture areas suffering relatively little from grey mistiness, yet at the same time the deliberately stark, washed-out skin tones of Bilbo and the dwarves stand out quite strongly against the darkness. Detail-packed sequences, like the shots of the five armies amassed on the battlefield, are rich in texture and spectacularly crisp. There's an intense HD impact despite the small 40in screen size.

SPECIFICATIONS

3D: No
ULTRA HD: No. 1, 920 x 1,080
TUNER: Yes. Freeview HD
CONNECTIONS: 3 x HDMI; 2 x USB; RF input; Scart input; component video input; composite video input; optical digital audio output; headphone port; Ethernet port; built-in Wi-Fi
SOUND: 2 x 10W
BRIGHTNESS (CLAIMED): N/A
CONTRAST RATIO (CLAIMED): N/A
DIMENSIONS (OFF STAND): 907(w) x 50(d) x 533(h)mm
WEIGHT (OFF STAND): 7.7kg
FEATURES: Content-rich Smart TV system; 100Hz processing; S Recommendations system; dynamic contrast adjustment

The Samsung's good black level provides a basis for well-balanced colours, too.

Inevitably, the UE40H5500 isn't perfect. As with the Panasonic there's evidence of resolution loss during *Five Armies'* action scenes, and those impressive black levels do sometimes come with background details crushed out of the picture; sharpness needs reining in with grainy sources to stop them becoming noisy; the viewing angle is limited; and the UE40H5500's audio is a bit thin.

Overall, though, this TV gives you an almost silly amount of picture and feature goodness for its eye-wateringly low price.

Sony KDL-40W605

This set offers the best black levels in our roundup – but is that enough?



SONY'S CURRENT TV range has proved rather hit-and-miss due to the brand's almost random mixing of weak IPS panels with strong VA ones. Fortunately, though, the 40in KDL-40W605 is one of its strong sets.

It's fairly unassuming to look at. The minimalist, ultra-thin black bezel and 'barely there' frame-style stand are far from ugly, but don't clamour for your attention either. The build quality feels pretty plasticky. Hopefully its innards are built to a higher standard.

The TV is well connected thanks to its four HDMI's, two USBs and built-in Wi-Fi. Get online and you can nosey around the Sony Entertainment Network service. This is feeling a bit dated now – the brand's new Android screens can't come soon enough – and Sony's inability to add ITV Player and 4OD to SEN leaves the 40W605 feeling a little off the Smart pace set elsewhere, as does its limited potential for sharing video with secondary devices like phones and tablets. But a handy Discovery system offering streamlined content-finding options, together with a dedicated Netflix button on the supplied handset, soften the blow.

The 40W605's picture specifications are very promising. It claims a 200Hz motion system, for instance, and it benefits from Sony's impressive X-Reality Pro video

processing engine, which proves good at automatically optimising the appearance of different types of source content. The edge LED lighting doesn't benefit from Sony's excellent local dimming technology, but I didn't find myself missing this as much as expected. It's quickly apparent while watching *Five Armies* that the 40W605 delivers the most all-round satisfying black levels and contrast in this group test.

During the night-time orc attack on the dwarves in Lake Town, for instance, the extremes of darkness and brightness simultaneously visible are exceptional for a TV widely available for under £400.

Good blacks usually lead to good colours, and this is definitely the case here. The Sony does a remarkably strong job of handling Peter Jackson's stylised, filtered colour palette, but is just as at home with the more dynamic hues of animated fare like *Despicable Me 2* and the naturalistic tones of *Captain Phillips*.

Part of this naturalism is down to the set's ability to deliver subtle blends without any striping or patchiness – a talent which also helps detailed BD sequences, like the shots in the Erebor treasure chamber, look almost as crisp as they do on the Samsung 40H5500.

Motion is handled more cleanly than it is by any other set in this roundup. There is a little

SPECIFICATIONS

3D: No
ULTRA HD: No. 1,920 x 1,080
TUNER: Yes. Freeview HD
CONNECTIONS: HDMI x 4; USB x 2; RF input; Scart input; component video input; composite video input; optical digital audio output; headphone port; Ethernet port; built-in Wi-Fi
SOUND: 2 x 8W RMS
BRIGHTNESS (CLAIMED): N/A
CONTRAST RATIO (CLAIMED): Over 1 million:1
DIMENSIONS (OFF STAND): 926(w) x 89(d) x 556(h)mm
WEIGHT (OFF STAND): 7.7kg
FEATURES: MotionFlow 200Hz; Sony Entertainment Network service; X-Reality Pro processing engine; Intelligent Picture Optimiser

resolution loss during action-packed sequences, but it's less obvious than it is on any of the other TVs here.

At no point do the pictures resemble the sort of washed-out mushy mess we used to expect from low-price screens. But that's not to say it performs perfectly. Dark scenes very occasionally seem to glow a little, pictures aren't especially bright, and images start to lose contrast if you have to watch from an angle of more than around 35 degrees.

If the thing you're after most from your new sub-£400 TV is picture quality, though, the 40W605 is seriously hard to beat.

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Toshiba 42L6453DB

This 42-incher has some flaws, but it's the most affordable model in our roundup



TOSHIBA'S CHALLENGER TO the crown steals an early march on its rivals right away with its price, which gets as low as £320. This for a 42in screen that's a couple of inches bigger than its Sony and Samsung rivals.

It's not a bad looker. The slim black frame combines with curved corners and a silver stand to aesthetically punch well above its price weight. What's more, it rivals Sony's 40W605 on the connections front thanks to four HDMI's, two USBs and both LAN and Wi-Fi network options. You can stream multimedia from DLNA devices as well as taking the TV online with Toshiba's Cloud TV platform.

The USBs score extra points, too, as they allow the 42L6453DB to deliver Toshiba's MediaGuide Replay (MGR) system. This learns what you like to watch and can record similar programming (from the onboard Freeview HD tuner) to a USB hard drive automatically, essentially creating your own custom-built TV channel. Like Virgin's TiVo functionality – except that it's totally free.

The MGR system works well, and is attractively handled by the 42L6453DB's operating systems. Toshiba's Cloud TV system is reasonably easy to follow via the onscreen menus, although it does look dated style-wise.

Cloud TV falls short of its rivals with its content. The collection of catch-up TV and

on-demand apps on offer is quite limited, with ITV Player, 4OD and Amazon being three unfortunate absentees. And it seems unlikely more apps will be added in the future.

Love Hertz

The 42L6453DB keeps up with the Sony 40W605 by offering 200Hz-emulating motion processing, and delivers the most fulsome suite of picture calibration tools here. Unfortunately, though, no amount of tinkering with these settings can stop its pictures from struggling to rival the competition. Toshiba's TV stumbled with all of my reference dark scenes from the third *Hobbit* flick. First, parts of the picture that should look black instead look grey and misty. Second, this greyiness makes it hard for the screen to render shadow details, robbing Jackson's movie of its effective sense of depth.

There's also noticeable backlight clouding, where inconsistencies in the screen's edge LED array cause some patches of the picture to look brighter than others. A dynamic backlight feature boosts black level response, but only at the expense of over-aggressive jumps in brightness that frequently distract.

The 42L6453DB also struggles with colours. After calibrating the set to counter as many of its black level problems as possible,

tones are muted and flat. Yet they become simplistic and over-the-top if you sacrifice black level response.

Sharpness levels are high, bringing out the Middle-earth sets and textures well. And decent clarity is maintained by efficient motion handling. The Toshiba is also the brightest of this quartet, and thankfully this doesn't lead to increased picture noise, even when watching grainy sources like *300* on Blu-ray.

All told, this is another well-meaning effort from Toshiba that just doesn't impress as much as rival screens.

SPECIFICATIONS

3D: No
ULTRA HD: No. 1,920 x 1,080
TUNER: Yes. Freeview HD
CONNECTIONS: HDMI x 4; USB x 2; RF input; Scart input; component video input; composite video input; optical digital audio output; headphone port; Ethernet port; built-in Wi-Fi
SOUND: 2 x 7W RMS
BRIGHTNESS (CLAIMED): 300cd/m2
CONTRAST RATIO (CLAIMED): 4,000,000:1
DIMENSIONS (OFF STAND): 964(w) x 35(d) x 569(h)mm
WEIGHT (OFF STAND): 9.5kg
FEATURES: AMR 200Hz motion processing; MediaGuide Replay support; Cloud TV Smart engine; dual core processor

Final standings

ALTHOUGH ALL THE chat in home cinema circles right now is about UHD/4K, it's a simple fact that native 2,160p content is still painfully thin on the ground, and will probably be for some time. Not everyone can accommodate the sort of super-sized screens required to do UHD justice either, and you don't get all those extra pixels for free. So if money's tight or you're after a mid-sized flatscreen, the sort of ultra-affordable Full HD models covered here from four of the leading brands could offer the perfect solution.

AND IT'S CLEAR from this roundup that now is a fine time to buy a mid-sized Full HD TV. The value for money on show across all four models is extreme, with each offering either an array of features or a level of performance that you might not expect at its price level.

There is a pecking order of sorts, though, which unfortunately finds the Toshiba 42L6453DB bringing up the rear. With Toshiba recently announcing its withdrawal from the UK TV market, the 42L6453DB might possibly be the last Tosh telly we ever test. So it's a shame that contrast and colour issues leave it languishing in merely average territory.

Considerably above average, though, is Panasonic's TX-42AS520. This is a solid all-rounder in the picture and sound departments, and gains extra appeal from the

excellent Freetime catch-up TV platform. Only some motion blurring and the strength of the Samsung and Sony contenders prevent it from rising above third place.

After much to-ing and fro-ing, the battle for first place has ended up as a score draw. The Sony KDL-40W605 edges out the Samsung 40H5500 for sheer picture quality prowess, making it the screen of choice for movie fans – especially if you will be putting your new TV into a room where you can keep the lighting low when watching Blu-rays.

The Samsung 40H5500, though, combines still-strong picture quality with a Smart system that's clearly superior to Sony's, making it a potentially more satisfying all-rounder if you want a comprehensive source of built-in content options to go with good AV standards ■

BUDGET BLU-RAY PLAYERS



Partner your screen: Matching your new affordable Full HD flatscreen with a budget Blu-ray deck will see you turning to many of the same brands featured in this TV group test. The good news is that there are plenty of models available for less than £100 (all released in 2014 but still clogging up shop shelves) that do a good job.

Sony BDP-S5200: This smallscale angular-designed disc-spinner (pictured) offers 3D BD playback for just £80. Wi-Fi is integrated, and loading speeds are nice and nippy. Again, the Sony Entertainment Network service is a bit hit-and-miss, but image quality is top-notch.

Samsung BD-H6500: Available for around £100, this player from Samsung has some nice design touches (including curved corners) and an app-heavy Smart portal. Picture quality is fine from Blu-ray and DVD, and there are various user tweaks to experiment with if you want to step away from its Movie preset.

Panasonic DMP-BDT360: Another machine now selling for around £100, after launching at £120, the DMP-BDT360 is a tad bland in terms of styling (and the user interface is a touch cumbersome), but proves to be a good multimedia player (it'll happily play FLAC files from your network) and offers 4K upscaling for future-gazers.

HCC VERDICT



Panasonic TX-42AS520

→ £380 approx

→ www.panasonic.co.uk

→ Tel: 0844 844 3899

HIGHS: Mostly good picture quality; attractive design; built-in Freetime service brings full suite of catch-up apps; great price

LOWS: Obvious motion blur; average black levels; slightly soft pictures

Performance ★★★★★

Design ★★★★★

Features ★★★★★

Overall ★★★★★

HCC VERDICT



Samsung UE40H5500

→ £350 approx

→ www.samsung.co.uk

→ Tel: 0330 726 7864

HIGHS: Good picture quality; content-packed Smart system; spectacular value

LOWS: A little motion blur; can lose shadow detail; images can look slightly noisy

Performance ★★★★★

Design ★★★★★

Features ★★★★★

Overall ★★★★★

HCC VERDICT



Sony KDL-40W605

→ £380 approx

→ www.sony.co.uk

→ Tel: 0845 6000 124

HIGHS: Excellent all-round picture quality; good connectivity; strong value

LOWS: Audio is average; uninspiring build quality; SEN has no 4OD or ITV Player support

Performance ★★★★★

Design ★★★★★

Features ★★★★★

Overall ★★★★★

HCC VERDICT



Toshiba 42L6453DB

→ £320 approx

→ www.toshiba.co.uk

→ Tel: 020 3051 9738

HIGHS: Cheapest TV here; good connectivity; MediaGuide Replay feature works well

LOWS: Average picture quality; average audio quality; no 4OD, ITV Player or Amazon app support

Performance ★★★★★

Design ★★★★★

Features ★★★★★

Overall ★★★★★

A design aimed at big bass... lots of use of the word 'pressurisation' in the blurb... **Adam Rayner** is excited by REL's new sub



AV INFO

PRODUCT:
High-end cinema subwoofer

POSITIONING:
Sits alongside the Gibraltar series

PEERS:
Paradigm Sub 15;
Velodyne DD15+;
Monitor Audio
Platinum PL15

Four's plenty

THE 212SE, THE newest venture from sub-bass specialist REL, is a mighty quad-driver woofer capable of making profound, structure-borne seismic lows that will flow through walls and foundations. It probably isn't fit for semi-detached suburbia, unless – like me – you have The Best Neighbours Ever.

Its vertically-aligned cabinet stands around 80cm high, and comes only in a shiny black finish. There are metal protector/ornament/handles on each flank, beneath a scooped-out dimple that somehow adds to the premium look of this £2,750 bass-maker. The front grille is a massive affair, held a good distance from the front baffle on shiny chromed metal pegs that fit into rubbery sockets.

The space provided is because the active 12in drivers (of which there are two) are a bit bonkers. A seriously mobile 2in cone travel is married to a metal diaphragm that has massive rigidity and a truly pistonic motion. The two drivers share 1,000W of onboard amplification. Although, as the 212SE is rated at 1,700W peak output, each needs to be able to digest 850W of grunt at full-pelt, so requires a substantial motor assembly.

The rear of the sealed sub features what looks like another of these 12in transducers, but is, in fact, a passive bass radiator (PBR). This allows the system to resonate as low as the compliance of the drivers' suspensions, rather than a ported woofer's tuned frequency. It makes for a best-of-both-worlds between ported and sealed designs. And underneath is another 12in PBR pressure-loaded to your movie-room floor by the stumpy branded feet.

Simultaneous excitement

The amp panel is typical of REL. You get low- and high-level connections (the latter uses a Neutrik Speakon socket and a supplied 10m cable), as well as an input for 'I'. The idea is to connect both high-level (to your AVR's speaker terminals) and LFE simultaneously. REL says its approach is unique, but there are other brands that agree with the logic of this. It means the 212SE is fed not only the bass material steered to the LFE channel, but also that of the front L/R stage. It will bolster two-channel music, too.

The 212SE is also compatible with REL's LongBow wireless transmission system, which is an optional extra here. It works well.

On the rear panel is a crossover control, which can be set between 30Hz and 120Hz, as well as a zero/180-degree phase switch and an always on/standby toggle. Set up is

comprehensively described in the manual although you may boggle at the implication that a full system would cost you £13,750 and feature 8,500W peak amplification.

Believe me, unless you have a huge room, one of these woofers is plenty.

Jack of all bass trades

I spun up *Gravity* (Blu-ray) with Gorgeous George and Sandra Bullock. As a qualified diver who once had a scary-air moment, this film, with its Oscar-winning sound editing, sound mixing and score, terrifies me. It majors on sound and the physics of it, but happily ignores that when it suits the filmmakers. So you get some explosions you cannot hear and yet Doppler-Effect vocals as space-suited astronauts zoom about.

The REL 212SE does deep and it does loud. Oddly, it also does subtle and it does brash, too. And sometimes it manages to do both at once. In *Gravity*, you *feel* Sandra Bullock's heartbeat speed up and then slow down as she fights panic while drifting off into space.

A monstrous cello note and a deep, dropping throb is used when an oxygen alarm becomes critical. The huge, vast wobble at that moment went all the way down to infrasonics and made me truly understand her fear. It was breathtaking. Later, the poor love bangs her head inside the ISS. The thud imparted by the REL was sickeningly visceral.

After a while, I tried the system playing at a more everyday level and still found it deliciously linear. The 212SE works beautifully at lower volumes, every bit as rich and effortless. Like a three-litre petrol turbo, it has a lot of vava-voom in store. A 5.1 DTS music track (Sting's *Heavy Clouds, No Rain*) showcased huge scale and a tremendous grip of the basslines. This big brute is very musical indeed.

If you truly 'get' deep bass, if you like your kit to be on show rather than hidden away and – above all – if you feel that urge for truly energetic audio, then the REL 212SE is actually good value. For this level of output you can pay a lot more. It is sumptuous to look at, beautifully made and will both frighten and impress your guests. Audition one ■

SPECIFICATIONS

DRIVE UNITS: 2 x front-firing 12in long-throw die-cast aluminium chassis drivers with 2in linear stroke of travel; 1 x rear-facing 12in passive radiator; 1 x down-facing 12in passive radiator

ENCLOSURE: Sealed

FREQUENCY RESPONSE: 21Hz at -6dB

ON-BOARD POWER: 1,000W RMS

REMOTE CONTROL: No.

DIMENSIONS (WHD): 436(w) x 816(h) x 507(d)mm

WEIGHT: 55.3kg

CONNECTIONS: Low-level stereo phono inputs; LFE input; high-level Neutrik Speakon input

FEATURES: Compatible with proprietary Longbow™ wireless signal transmission system (optional); supplied speaker-level cable with Neutrik Speakon connector

HCC VERDICT

REL 212SE

→ £2,750 → www.rel.net
→ Tel: 01656 768 777

HIGHS: Glorious looks; sumptuously deep, tight output; wireless transmission compatibility; flexible setup options

LOWS: Only available in shiny black; slightly favours slam over subtlety

Performance ★★★★★

Design ★★★★★

Features ★★★★★

Overall ★★★★★

Soundbar shapes up

Samsung's HW-J8500 is a premium-priced audio add-on for the brand's premium-priced curved TVs. **Danny Phillips** hopes it offers a premium-quality performance too



The 'bar employs nine mid-range drivers to create a wide soundstage

WHETHER GIMMICK OR game-changer, curved TVs are here to stay – but sadly so is the typically inadequate sound quality. Soundbars provide the solution, but a straight one looks odd in front of a curved TV. That's why Samsung has conjured up a range of curved 'bars to complement its bendy screens.

The flagship HW-J8500 heads up Samsung's second-gen curved series. It's designed for larger sets up to 78in.

Aesthetically the HW-J8500 walks the line between functional and fancy. The brushed black aluminium top panel forms a contrast with the grey speaker mesh on the front, although the silver version is prettier. Build quality falls short of high-end rivals but is solid enough to justify the cash.

Clutter is limited to a small panel of buttons on top and an informative front LED display. It's placed off-centre to make way for a (new for this year) centre speaker, which ensures a consistent sound all along the bar.

Connections include an HDMI ARC output and lone HDMI input, which is measly for the money. You also get optical and 3.5mm inputs, plus a USB port that lets you play hi-res music files up to 96kHz/24-bit.

AV INFO

PRODUCT: Curved soundbar/subwoofer

POSITION: Samsung's new range-topper

PEERS: Yamaha YSP-2500; Paradigm Soundscape; Monitor Audio ASB-2

Box ticked

In action the HW-J8500 fulfils the first part of the job description, namely delivering a bigger and more commanding sound

than a flatscreen. There's a terrific sense of scale to the audio that turns movie viewing into an exciting, visceral experience.

The pulsating beach battle scenes from *Edge of Tomorrow* are delivered with snap and vigour, while the wireless subwoofer anchors explosions and gunfire with beefy bass notes. Side-firing speakers spray bullets and swooshing quadcopters towards the walls, enhancing the overall feeling of width without sounding artificial.

You get an even spread across the front of the room, with nicely organised effects and authoritative dialogue. The Surround Sound Expansion mode doesn't produce surround sound in the classic sense but its boosted output does feel strangely immersive.

It never struggles for volume, filling my room with the level barely over half-way. Push it further and it remains surprisingly composed, with only a touch of colouration and hardness creeping into the midrange.

Where the HW-J8500 falls down is the subwoofer's lack of agility and detail. The fat bass is initially gratifying, but it's a one-trick pony – during action scenes the enthusiastic rumbling plasters over low-frequency nuance and variation. And it requires a little taming of the volume controls to quell boominess.

And while treble is clean and crisp, other soundbars like the (cheaper) Q Acoustics M4 or the (more expensive) Paradigm Soundscape take it to the next level in terms of refinement and transparency.

Neither of those models are curved, however, and the HW-J8500 is definitely the best-sounding 'bar Samsung has produced. Worth a punt if you need a sonic tonic for your new curved TV ■

SPECIFICATIONS

DRIVE UNITS: 9 x midrange drivers

AMPLIFICATION: 350W

CONNECTIONS: HDMI input; HDMI output (ARC); optical input; 3.5mm minijack input; USB port; Ethernet

DOLBY TRUEHD/DTS-HD MA: No/No

SEPARATE SUB: Yes. With 1 x 8in driver

REMOTE CONTROL: Yes

DIMENSIONS: 1,450(w) x 60(h) x 185(d)mm

WEIGHT: 5kg

FEATURES: Bluetooth; TV SoundConnect; dual-band Wi-Fi for multiroom functionality; dedicated amps and active crossover for each driver; wall-mounting with supplied L bracket; Multi Air Gap wireless subwoofer; Dolby Digital 5.1 & DTS 2.0 decoding; Surround Sound Expansion; Clear Voice; six Sound Effect audio presets; bass, treble & subwoofer level controls; High-Frequency Audio Restoration

HCC VERDICT

Samsung HW-J8500

→ £900 approx → www.samsung.co.uk

→ Tel: 0330 726 7864

HIGHS: Snappy, vigorous sound; beefy bass output and room-filling volume; generous features; decent design and build

LOWS: Bass lacks shape and detail; only one HDMI input; lacks top-end finesse of rivals

Performance ★★★★★

Design ★★★★★

Features ★★★★★

Overall ★★★★★

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Comfy cans put bass up front

Mark Craven gives his ears a spot of R&R with Sony's MDR-1As

THERE ARE MORE headphones in the world than there are human heads. Possibly. So manufacturers have to stand out from the crowd. Some achieve this by getting whatever rap/rock artist they can entice to endorse their product. Sony, with its mid-priced MDR-1As, hopes to woo buyers with Hi-Res Audio branding and a slick, luxurious design.

The former is a bit of a red herring. These cans are rated up to 100Hz and their 40mm aluminium-coated polymer drivers claim a 105dB sensitivity, but the DSD brigade will probably be looking at higher-ticket models. Partly because no serious audiophile will be fussed by such modern-day niceties as the in-line mic enabling hands-free calls.

The comfort here can't be understated, however. The soft leather pads cosset your ears with enough pressure to feel totally secure without becoming annoying, and the headband is nice and light, too. Equally, the design is both contemporary and classy.

The cans are lightweight and contemporarily styled

Performance is good. There's no noise-cancelling here, but the over-the-ear design does enough to shield you from unwanted external sound. The soundstage crafted is blessed with lucid highs and a fulsome mid-range, meaning the Brian May-esque guitar solo in Muse's *Madness* positively rocks, while Matt Bellamy's vocals sound as plaintive as ever. That said, Sony's cans are a little bass-heavy – with the Muse track and its synthetic low frequencies that's not necessarily a bad thing, but switching to the country/blues of Tom Petty's *Mudcrutch* project finds the bass guitar and kick drums in danger of overwhelming the delicacies elsewhere.

It's a sonic trait that takes a while to get used to, but not a reason to strike the MDR-1As from your wishlist. Overall, these impress ■



HCC VERDICT

Sony MDR-1A → £150

Overall ★★★★★

PHILIPS SW750M → £130 approx

Multiroom audio with a singular focus

Got a Spotify Premium account? Then, says **Danny Phillips**, this speaker is worth a look

PHILIPS' SW750M IS a multiroom/standalone speaker aimed squarely at disciples of the Spotify music streaming system, and those with a Premium account and subsequently Spotify Connect functionality, which allows the use of the

Connect app on your Smart device to send tunes to compatible hardware. The app is a doddle to use, and you can wirelessly hook up to one (or more) of Philips' curved speakers and get the multiroom party going. However, with no Bluetooth or DLNA provision (nor any physical inputs),

non-Spotify Connect customers are ignored.

Styling is fine but the build quality of the ovoid cabinet is a little lacklustre. However, at £130, the SW750M is hardly expensive.

Streamed audio is blessed with punch and poise. Power is

rated at a meagre 20W, but that proves enough to provoke the speaker's dual 3in full-range drivers, and 35mm tweeters, into action. The sound is energetic and the Philips isn't shy about making an effort to fill a room – there's a scale here that exceeds the physical dimensions of the cabinet. It goes reasonably loud, too.

The specific feature set severely limits the appeal of the SW750M, but Spotify Connectors eager to setup an affordable multiroom system should consider it. However, there are rival products that offer the same functionality, and more ■



HCC VERDICT

Philips SW750M → £130

Overall ★★★★★

The 'Play' button automatically calls up the last-played Spotify track

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Close to the wedge

Martin Pipe checks out Creative's unusual PC-oriented hybrid audio system

IT LOOKS LIKE a piece of military hardware produced by Stark Industries, but what we have here is actually the X7 'soundcard' from the pioneer of that particular genre, Creative Labs. In the past, Creative's Sound Blasters used to sit inside a PC. They endowed games with a sonic accompaniment, enabled you to play music on your computer and even gave your machine 'straight-to-hard-drive' digital audio recording. Trust me, in the early '90s this stuff was revolutionary.

The Sound Blaster X7 can do all of these things. But, now it has broken free of the constraints of a PC's casework, considerably more is thrown into the bargain.

It relies on USB hookup to your computer and work with Macs as well as PCs. Not that you need a computer; thanks to apt-X Bluetooth support, it will stream music stored elsewhere. Smart devices can connect directly via USB, too. Built-in power is rated at 2 x 50W – far more than would be allowed from a card that steals its juice from a host PC. It also boasts a headphone amp with 6.3mm/3.5mm sockets and comes with a headphone stand that clips into the back of the unit.

Stereo? Yes. The X7 supports multichannel up to 5.1 but there's just no room for all those extra amplifiers, and so you if you want a full 5.1 rig you'll have to connect three external amps, or active speakers, plus an active sub. And the surround outputs are output via



3.5mm sockets rather than phonos, which may make interfacing awkward. There is a digital optical output, but this delivers two-channel only. Also on the rear panel, you'll find an optical digital input. This will accept stereo or 5.1 streams from DVD players, set-top boxes,

gaming consoles and the like. Only Dolby Digital is accepted; the X7 won't deal with DTS.

You'll make the most of the X7 with a PC. There's no HDMI connectivity, so the only way you'll be able to take full advantage of the 24-bit/192kHz capabilities is to play out hi-res audio stored on computer-accessible media. Then you can take advantage of the X7's audiophile pretensions – high-grade capacitors, Burr-Brown digital-to-analogue conversion, and analogue-to-digital conversion from the phono input sockets.

With a pair of monitor speakers connected to the output terminals, and cables routed to the rest of a 5.1 rig via a Pioneer receiver, the X7 gave a remarkably good account of itself. It can't compete in sheer musicality terms with audiophile USB DACs like Benchmark's DAC2HGC, but then again it's a fifth of the price. USB music playback shows the X7 – through speakers and headphones alike – to be capable of a dynamic and detailed sound, albeit one that can err towards brightness. Bluetooth playback is trouble-free.

The X7 can also convey a decent surround image. With BBC2 HD's recent broadcast of *2001: A Space Odyssey*, ambience was palpable – particularly during the 'Dawn of Man' sequence – while the sounds of Poole's outer-space helmet-breathing imparted a very real sense of claustrophobia.

As a high-end soundcard, then, the X7 is a worthwhile proposition. There's stuff for gamers, musicians and 'phone users alike. If you spend a considerable amount of time with your PC, it's probably one of the best general-purpose solutions around. Pricey, though, and the lack of HDMI annoys ■

SPECIFICATIONS

CONNECTIONS: 3.5mm mic in; stereo phono in; optical digital in; USB (PC); USB host (Smart device playback/charging); speaker outputs; 6.3mm/3.5mm headphone output; 3.5mm surround outputs (L/R surround, centre/sub); stereo/front phono out; optical digital output

AMPLIFICATION: 2 x 50W max with supplied 144W adaptor

DIMENSIONS: 150(w) x 130(h) x 160(d)mm

MINIMUM SYSTEM REQUIREMENTS: (PC) dual-core Intel/AMD processor, 1GB RAM; 600MB HDD space; MacOSX 10.6.8/Windows Vista/7/8/8.1; (mobile device) Android 2.3 (4.1 for USB streaming) or iOS 6.0

WEIGHT: 1kg

FEATURES: Bluetooth (with apt-X streaming); dedicated headphone amp; Class D amplification; 4/8-ohm speaker impedance selector; in-built microphones (with CrystalVoice for hands-free/VOIP); software control panel with equaliser, surround balancer and configurable presets for different applications; 'Scout' mode for gamers (hear distant opponents earlier); SBX Studio Pro (compressed music enhancement, bass extension and dynamic range tweaks); sampling rate/resolution up to 192kHz/24-bit; Burr-Brown PCM1794 DAC; Burr-Brown PCM4220 ADC; asynchronous USB support; integrated Dolby Digital 5.1 decoding

AV INFO

PRODUCT: PC-centric hybrid headphone amp/DAC/5.1 processor

POSITION: Only below a 'Limited Edition' X7 in Creative's Sound Blaster stable

PEERS: NuForce uDAC3

HCC VERDICT

Creative Sound Blaster X7

→ £330 approx → <http://uk.creative.com>

→ Tel: +353 1 4333200

HIGHS: Lots of features and gadgets; a decent overall playback standard; solid headphone amp and audiophile tweaks

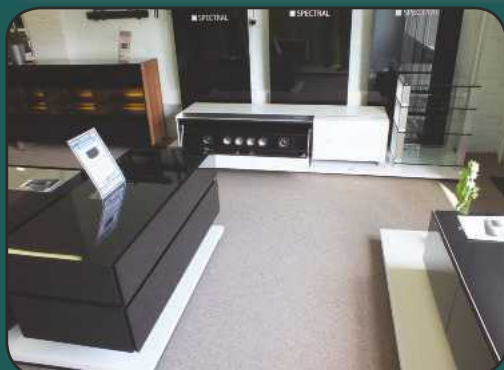
LOWS: No HDMI connectivity; optical input only supports DD and PCM; 5.1 is a faff

Performance ★★★★★

Design ★★★★★

Features ★★★★★

Overall ★★★★★



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A YAMAHA YSP-2500 DIGITAL SOUND PROJECTOR

FOR OVER A decade, Yamaha's range of Digital Sound Projectors has paved the way for movie fans to get a slice of surround sound action without the need for separate speakers, amps and unsightly runs of cable. Different to a conventional soundbar or soundbase speaker, they feature multiple driver arrays and use proprietary signal processing to reflect audio off a room's walls to create a genuine multichannel effect.

Up for grabs in our competition is Yamaha's current state-of-the-art model, the YSP-2500. Awarded a Best Buy badge in HCC #243, it typically retails for around £700. But it could be yours for free!

Premium proposition

Made from highly rigid aluminium, the YSP-2500 looks and feels like a premium product, with a simple uncluttered design that will marry well with any flatscreen. Internally, it packs no fewer than 16 drivers, in a layout designed for optimum sound dispersion, while the accompanying wirelessly connected subwoofer uses twin 10cm bass drivers and a 130W amp.

Copious connectivity means the YSP-2500 can easily become the hub of your setup. There are three HDMI inputs (offering 4K and 3D passthrough) plus an ARC-enabled HDMI output. Other sources can hook up via analogue and digital audio inputs, while Smart devices can stream direct to the Yamaha with aptX Bluetooth. You can also control the YSP-2500 via an iOS/Android app.

To get up and running, simply plug in the supplied calibration microphone and let Yamaha's IntelliBeam system work its magic. This measures the layout of your room and adjusts various parameters (including beam angles and frequency response) to suit. You can then check and tweak the results if you wish.

Performance is exemplary. The YSP-2500 has an instantly engaging, effortless sound quality that pins dialogue to your screen and crafts a wide, detailed soundstage. Movie effects ooze clarity and texture, backed up by meaty, taut bass, while music material relishes the Yamaha's even-handed balance.

To hear one is to want one. So what are you waiting for?



For more information on Yamaha's YSP-2500 and wider product range visit: uk.yamaha.com

To be in with a chance of winning the Yamaha YSP-2500 Digital Sound Projector answer the following film-related question:

Q: Julie Andrews and Christopher Plummer starred in which 1960s musical?

- A)** The Sound of Music
- B)** Mary Poppins
- C)** My Fair Lady

HOW TO ENTER:

Simply email your answer (either A, B or C) to **competitions@homecinemachoice.com** with the subject line 'Yamaha'. You must include your name, address and contact telephone number.

The closing date for this competition is May 14, 2015. Please read the terms and conditions (below) before sending in your entry.

'Performance is exemplary. The YSP-2500 has an instantly engaging, effortless sound quality. Movie effects ooze clarity... bass is deep and taut'



Competition rules

- 1.** The first entry drawn at random will win the prize. **2.** Only one entry per person/household; multiple entries will be discarded. **3.** Employees of MyTimeMedia Ltd and companies supplying competition prizes are not eligible to enter this competition. **4.** Please ensure your personal details are correct, as they will be used to contact you if you win. **5.** No alternatives, cash or otherwise, will be offered to the winner as prizes. **6.** The editor's decision is final. **7.** The closing date for entries is May 14, 2015.

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Code HDC14PRO 4k **£79.99**

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Code HDC18PRO 4k **£124.99**



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High Dynamic Range is the Frankenstein's monster of the AV industry – a high-tech creation that's out of control. **Mark Craven** reckons it needs to be tamed, quickly

HIGH DYNAMIC RANGE (or HDR as it has rapidly become known) is, as you may have gathered from flicking through this magazine, the current buzzword in television technology circles. Which I will admit is somewhat surprising. Turn the clocks back just 18 months and HDR was a topic that never ever came up during those infrequent moments when Team *HCC* gets together for a few beers and a chat about the state of the AV industry. Unless I got drunk and forgot.

My point being: HDR has snuck up on us. In fact, it seems to have snuck up on much of the consumer electronics industry, too, in a way that 4K, for instance, never did. Even before the first 4K flatscreens arrived, it was a tech concept that was widely talked about. So much so, that the new panels sporting 3,840 x 2,160 resolutions were greeted with eager anticipation and a sense that it was an obvious evolutionary step. HD Ready begat Full HD, Full HD begat 4K.

HDR, on the other hand, has just sort of arrived unexpectedly. In a good way, of course, like a letter from British Gas telling you you've been overpaying for 12 months and are due a giant cheque. But I'll be honest and say that six months ago I wasn't expecting to have a 1,000 Nit, £6,000 Samsung screen gracing our front cover.

It's alive!

In this issue alone, we've chatted about HDR with Panasonic, Philips and LG, and got up close and personal with that new Samsung flagship. And it's immediately obvious that HDR has come racing out of the AV tech vault like Frankenstein's monster, an uncontrollable beast, viewed with glee by marketeers but with mild panic by everyone else. Sure, there's a lot of talk about peak luminance

and wide colour gamuts, but nothing in the way of standards. Or rather, too much in the way of standards. Dolby, the BBC, Philips, Technicolor, the International Telecommunications Union (ITU) and the Society of Motion Picture & Television Engineers (SMPTE) have all beavered away on HDR criteria. Heck, maybe I should have a go.

The Blu-ray Disc Association (which is becoming a regular visitor to this column, I've noticed) has an answer to this muddle. Ultra HD Blu-ray, it's been widely reported, will support 'Open Standard' HDR. **I'm sure I am not the first person to wonder what the hell that means.** If I had any hair left I would be pulling it out right about now.

Imagine a friend of yours asks a fairly sensible question: how high is High Dynamic Range? You'd have to shrug your shoulders. Then they might ask what film and TV content they can expect to see in HDR. Again, you'd have to fob them off. Even the basic 'what is HDR?' is a query that takes far too long to answer than it really should.

Now, I don't want to sound like some sort of rules-obsessed home cinema fundamentalist, but I do believe standards are important, particularly for consumers who live in fear of spending a lot of money on something that might not do what they thought it did. Back in the olden days of the last decade, the HD TV logo was a great shop-shelf indicator for screens and set-top boxes, reassuring buyers that they were making the right choice. HDR will, surely, need something similar. But to do that, it really needs an agreed standard. I hope that everyone can agree to agree on one pretty damn quick ■

*Are you worried about rapidly-changing AV standards?
Let us know: email letters@homecinemachoice.com*

Mark Craven promises to give the Blu-ray Disc Association a break just as soon as it does anything that can be deemed sensible and worthwhile





FILM FANATIC

The accidental screening of an extended cut of the *Evil Dead* remake on Channel 4 gets **Anton van Beek** thinking about memorable TV versions of other movies

FRIGHT FANS GOT a whole lot more than they bargained for when they tuned in for the UK terrestrial TV debut of the *Evil Dead* remake earlier this year. Thanks to a cock-up at the film's UK distributor StudioCanal, the dead-lucky Channel 4 viewers who sat down to watch the film in January saw an alternate cut of the film that hasn't been screened anywhere else in the world.

Running some five minutes longer than the original cinema cut, this extended version of Fede Alvarez's remake added a host of new scenes as well as an alternate ending. While some of this new material was devoted to plot and character, the fact that it also featured more, not less, gore soon dispelled any notions that it was a specially-prepared TV cut of a film using the new material to compensate for trims to onscreen violence.

All of this points to the version Channel 4 was supplied with as being the original cut of *Evil Dead* that was slapped with an NC-17 rating by the MPAA. Naturally, the film was then edited to secure a more commercially acceptable R rating. This was the version that was subsequently released around the world in cinemas and on DVD/Blu-ray.

Quite why this version has never seen the light of day in any official capacity is certainly curious – **there's clearly still plenty of interest among horror fans given the prices bootleg DVDs of the TV broadcast are commanding online.** Still, it'll be interesting to see if a DVD or BD release materialises to tie-in with the *Ash vs. The Evil Dead* TV series when the show begins airing later this year.

This situation got me thinking about other alternate versions of films that have turned up on TV over the decades. The most famous is undoubtedly *The Godfather: A Novel for Television*.

This was Francis Ford Coppola's seven-hour TV miniseries re-edit of the first two films in his famous crime saga, which screened on NBC over four nights in 1977. Restructuring the two award-winning films into chronological order, it had to tone down the violence and language to meet with broadcasting standards, but added over an hour of previously deleted footage. It's a slog to get through and mucks up the films something rotten, but is still a fascinating experiment.

'Flip you, melon farmer!'

Arguably just as famous (and much more amusing) in its transition to TV was Alex Cox's 1984 cult hit *Repo Man*. Supervised by the director, not only does the cleaned-up network TV version add a couple of extra scenes, it also boasts the most inspired, surreal and hilarious over-dubbing of profanity that has ever been performed, with the term 'melon farmers' (can you guess what that replaced?) quickly taking on a life of its own. Thankfully, this hilarious alternate version of *Repo Man* is still easy to get hold of thanks to Masters of Cinema including it as an extra on the 2012 Blu-ray release.

Also well worth a look is the US TV edit of John Carpenter's *Halloween*, which made up for trims to its violence with brand new scenes (shot at the same time as *Halloween 2*) that cement the family link between Laurie Strode and Michael Myers.

But for my money they don't get any better than the open matte version of *Jaws: The Revenge* that used to turn up on ITV in the days before widescreen TVs became commonplace. This seemed to go out of its way to showcasing the inner workings of the fake shark every time it appeared on screen... ■

Do you have fond memories of alternate TV edits of films? Let us know: email letters@homecinemachoice.com

Anton van Beek's passion for all things *Jaws* means he often gets drunk and challenges the rest of Team HCC to show off their scars





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PICTURE THIS

Grain is good. Noise is bad. But, explains calibrator **Vincent Teoh**, in the era of HD and 4K your flatscreen's onboard noise reduction technology just can't tell the difference between them

MOST HIGH-END TVS offer a dizzying array of picture-affecting controls in their user menu. So, in addition to traditional controls to adjust brightness, contrast and sharpness, users are also confronted with a multitude of other options for tweaking the image, ranging from white balance to colour management and automatic brightness adjustment. And then there's what I consider to be one of the most evil picture processing elements found on modern TVs: noise reduction.

While useful in the past to suppress noise in analogue video systems, these days noise reduction processing has been rendered largely superfluous by the arrival of HD and more recently 4K/UHD formats. No in-TV noise reduction (NR) system is sophisticated enough to reliably tell the difference between unwanted noise and fine detail that's originally present in HD and UHD content, so by engaging the noise reduction control (even at the lowest setting) on your display, more often than not you're also scrubbing away finely textured detail.

Grain or noise?

Which brings me to the subject of film grain. Many viewers are often confused between film grain and noise. The former refers to the random texture on film caused by small metallic silver grains after exposure; whereas the latter is not originally in the image, but has been introduced through digital sensor (particularly in low-light scenes), encoding, compression or other processing. Although the visible end-result is similar, an important distinction is that grain is inherent in the film, while noise is not.

The proliferation of digital media and advancements in remastering/restoration processes mean that noise seen on high-quality digital formats such as Blu-ray is likely to be film grain that's either

part of the movie or intentionally added during post-processing. Far from being a scourge as made out by certain misguided quarters, film grain is actually a good thing: it increases perceived detail and makes the picture look more 'alive' and filmic.

This concept is so profound that it's worthwhile repeating: **film grain is the image, and there's no way of removing grain without also erasing other fine details present in the picture.** Switching on your TV's noise reduction control will not only obliterate the finely textured film grain, but also smooths out actual fine detail, resulting in waxy faces and an over-sanitised appearance that can make content look like it was shot on cheap video.

The crudest method of noise reduction is a spatial filter that blurs out the entire frame – fortunately with improved video processing it's only used in the low-end cleanup of MPEG compression artefacts. The next step up is a temporal NR filter that studies and removes noise over several frames; this, however, introduces motion smearing on moving objects. The most advanced NR systems employ per-region or even per-pixel motion-adaptive filtering strategies, but the former still affects fine detail, whilst the latter is generally only available on dedicated (costly) external video processors.

HCC has regularly praised Blu-ray transfers that leave film grain intact, and chastised those featuring overzealous digital noise reduction. Along the same lines, I strongly advise you to turn off the noise reduction controls on your TV. Not only will you be rewarded with pristine image reproduction, but you'll also be paying the highest respect to the director's creative intent ■

*Are you a fan of film grain? Let us know your thoughts...
Email letters@homecinemachoice.com*

Vincent Teoh
has worked as
a pro video
calibrator for seven
years and knows
the difference
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Feedback

Got an axe to grind? Need to comment on current technology?
Want to share your knowledge with our readers? **HCC** is here to help

What's the deal with DTS:X?

I have been reading a lot about Dolby Atmos lately and must admit that I am a bit worried about splashing out on a new AV receiver.

The problem is, although Atmos sounds like a huge shot in the arm for sound, DTS:X is just around the corner, and what if it turns out to be superior to Atmos? The other problem is that when BDs came along, DTS was the *de facto* sound format used by the majority of studios, even though Dolby Digital was the apparent standard on DVDs. So what happens if the studios decide to opt for DTS:X in favour

of Atmos? Could this mean that those who have rushed out to buy their Atmos-enabled AVRs may be stuck with an expensive pile of junk? Will these AVRs be upgradeable to DTS:X? Questions that I am sure no one can answer yet.

Once again, it just goes to show that sitting back and playing the waiting game can pay off. But, of course, the danger there is that if you wait too long, word gets out of another step forward in technology just around the corner, so you wait a little longer. You could end up never buying anything as the technology is progressing so quickly now.



Sooner or later you just have to take the plunge.

I know that Dolby and DTS are rivals, but I do wish that they would co-ordinate releases of technology to a degree so that I didn't go out and spend in excess of £1,000 on an AVR, only to find six months later that it is now defunct due to one rival or another bringing out a format that is completely incompatible with

my new purchase. I doubt that an Atmos-enabled AVR will have a firmware update to make it compatible with DTS:X due to the route that DTS will take in decoding being very different to Dolby.

I also wonder how many nearly-new AV receivers will appear on auction websites because they are no longer considered 'fully functional'?

I think I may just wait until you have reviewed DTS:X. After all, I am reconfiguring my home cinema next year, and don't want to go through the expense of doing so only to find that the speaker placements and cable

★ STAR LETTER...

'We all have HDTVs and we want HD feeds!'

I wholeheartedly concur with Mark Craven's opinion in *Digital Copy*, HCC #245. Given that nearly every TV sold in sizes 38in and above is high-definition and has been for years, it is incredible that Sky and others still have the cheek to charge extra for this 'premium' service. Full HD should be seen as standard and standard-definition should rapidly be consigned to the bin.

We are already moving onto the next resolution standard (4K) while broadcasters still drag their heels over Full HD. Nearly every morning, after an evening watching hi-def content, I tune into *Breakfast News* on BBC One. On the sofa, toast on my tray, I then have to rapidly scramble for the remote when I realise I'm still on BBC HD and the news comes to a crashing halt with bird noises tweeting away and a splash screen telling me that the BBC still cannot broadcast the five-minute local news segment in HD! Really? After five years of broadcasting BBC HD, they cannot get an HD camera in the local studios and broadcast Full HD? Perhaps they should spend less taxpayer money on (mainly SD) iPlayer streaming, and more on getting terrestrial broadcasts up to a standard (1,920

x1,080) that is already being superseded. We all have HDTVs and we want HD feeds. I hate to think of all the UHD adopters having to upscale SD to their 4K panels. What a mess...
Simon Coughlan, London

Mark Craven replies: I'm glad you concur Simon, and your letter is undoubtedly a more eloquent assessment of the situation than my recent column!



As you say, broadcasters aren't even up to speed with the HD standard, yet the same broadcasters are beginning to make tentative noises about 4K. It's an odd situation.

As for the BBC One HD drop-out when it's time for local news, this is something I have become so used to that it doesn't faze me any more. That red and white screen and the sounds of birds tweeting can be quite relaxing for those brief, five-minute slots...

More seriously, I can only imagine the reasons that have combined to leave BBC local news in such a dire state (including regional production capabilities) are 1): so complex that it will simply never happen or 2) not at all complicated in 2015 but it's been decided that no one really cares anymore.

Star letter-writer Simon wins a copy of *Veep: The Complete Third Season* on Blu-ray, courtesy of our pals at HBO Home Entertainment. This third slice of the smash US comedy is available to buy now on Blu-ray, DVD and digital download.



Classic 1953 sci-fi *War of the Worlds* – no Blu-ray release yet

runs are changed afterwards because Atmos has faded away and DTS:X is the norm!

Will it? I don't know and I suspect you guys don't either.
Steve Old, via email

Mark Craven replies: You suspect we don't know. I know we don't know!

We were hoping by now that there would have been an announcement from DTS fleshing out some of the technical details regarding DTS:X. And when I say 'technical details' I mean, well, everything, from processing technologies and speaker placement to system setup, software support, and, yes, the incoming hardware.

DTS first made a public utterance about DTS:X on Dec 30 last year. Describing DTS:X as 'object-based audio' and the 'successor' to DTS-HD Master Audio delivering the 'ultimate in flexibility, immersion and interactivity,' the company said the official launch of DTS:X was planned for March 2015 'at which time additional information will be shared.'

I'm writing this in the final week of March, and there's not been a peep out of DTS. Hopefully, in between now and this mag flopping through your

letterbox, there will have been, and we'll all be up to speed.

You're right that the questions you ask about studio support and potential upgrades to Atmos AVRs are not easy to answer. I could have a go, but it would be speculation rather than fact.

Many Team HCC members have spoken directly to hardware manufacturers about DTS:X and the truth is that no one is prepared to say anything on record. Indeed, most won't say anything off-record, as they have nothing to say. A UK rep of one of the world's major AV receiver companies candidly told me: 'We don't know what's happening yet.'

Tickets! Netflix! Missing BDs!

In February I missed the Sound & Vision: Bristol Show for the second time in 28 years due to ill-health. This gave time to read some back copies of *HCC* so here are a few things to think about! Cinema prices: I have seen three films recently at the cinema – *Interstellar*, *Ex Machina* and *Jupiter Ascending*. The most seats occupied was for *Interstellar* (about 15 of them). These places cost a lot to run and they need to make a profit!

As for Netflix, I fail to see the point. I recently acquired *Ghost in*

the Shell on Blu-ray for just £5 from HMV.

And to continue the discussion of films that should be out on Blu-ray, two of my choices would be *War of the Worlds* (1953) and *Went the Day Well?*.

John Ellison, via email

Anton van Beek replies: Sorry to hear about your ill-health John. I just hope that all is well now and that our coverage of the Bristol Show in *HCC* #245 made up for not being able to attend.

Your points about cinema pricing and Netflix provide plenty of food for thought – although I'd argue that the UK incarnation of Netflix is pretty handy when it comes to TV content. The likes of *Orange is the New Black*, *Better Call Saul*, *Archer* and *Danger 5* all provide hours of entertainment.

As for your choice of films that you'd like to see on Blu-ray, you'll no doubt be glad to learn that StudioCanal released Ealing's *Went the Day Well?* on Blu-ray as part of its Vintage Classics range back in 2011 and it's still readily available – you must have missed it!

The original *War of the Worlds* is high on our Blu-ray wishlist as well, but given Paramount's apparent lack of interest in back-catalogue releases, things

aren't looking hopeful right now. However, Paramount has previously allowed other labels (such as The Masters of Cinema Series) to license some of its older titles for release on Blu-ray in the UK, so there's always the chance something similar might happen. Until then, your best bet is the (rather lovely) 2005 Special Collector's Ed DVD.

Long live my Kuro

Hi all. I read with interest Vincent Teoh's article on plasma screens (*Picture This*, *HCC* #244). I have a Pioneer Kuro and have no plans to replace it. I will only change it when it finally kicks the bucket. Knowing Pioneer this could be a long time as my Pioneer Laserdisc players are still going strong.

It puts me into a quandary as I do not know what to buy to replace it with when the day eventually comes. I can only

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hope that LCD and OLED tech has advanced enough by then to make a new screen as good as my plasma. But until then I am safe in the knowledge that nothing on the market is as good as my TV!
Dave, via email

Mark Craven replies: We're glad you still love your Kuro and get good use out of it. And if you don't have any issues with it, then there is no need to even think about upgrading.

However, as my colleague John Archer would tell you after living with Samsung's new UE65JS9500, the state of the TV world in 2015 is a lot different to how it was when your Kuro was birthed six/seven years ago. More importantly, the content world is changing too. Will you still want to keep your Full HD Kuro when 4K BD software and hardware arrives in the next year?

New light sources for PJs?

A few issues ago I seem to remember a laser projector being

launched for about \$8,000. Have you any experience of this type of projector? Are there any plans to review one?

Also, there seems to be little in the way of LED-based projectors. These seem to be a good way of achieving excellent pictures, but the cheapest Optoma got a poor review for black level and the SIM2 is too expensive. Is there a reluctance on the part of manufacturers to produce something that effectively does not require bulb replacement?

Dave Simpson, Lincoln

Mark Craven replies: The laser projector that you're referring to is, I think, Epson's new EH-LS10000. It first broke cover at the CEDIA Expo in the US last Autumn, and was then officially launched for the UK recently. We don't have any experience of it beyond a brief demo at CEDIA,



SIM2's M.150 projector uses a tri-LED light source

but the good news is it is soon to arrive on our test bench. Look out for it in our next issue.

Using LED illumination rather than a UHP lamp for projectors is an idea that, as you suggest, should be more widespread than it is. LED has gained plenty of traction in the Pico projector market, but not so much in the dedicated home cinema PJ field.

User benefits are obvious, including a longer life-span and reduced power consumption.

However, achieving the kind of high brightness output from an LED light source that can match a traditional UHP model (above 1,500 Lumens, say) would appear to be one issue – neither SIM2's M.150 or Optoma's HD91 claim an output higher than 1,000 Lumens. As for reluctance to do away with bulb replacement, I suspect manufacturers are more reluctant to overhaul production lines to accommodate LED ■

Win! Three great Blu-rays up for grabs

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The Blob

Steve McQueen stars in the 1958 cult classic about a gelatinous alien that wreaks terror on a small town. Fabulous Films is bringing *The Blob* to DVD and Blu-ray on April 20 with the aid of a new 4K scan of the film – and to celebrate the release, we've got five copies of the Blu-ray to give away.

Question:

Which legendary soap opera star directed the 1972 sequel, *Beware! The Blob?*

Answer:

A) Larry Hagman B) William Roache C) Patrick Duffy

Email your answer with '**Blob**' as the subject heading – and include your postal address!



Predestination

Based on a short story by Robert A. Heinlein, this sci-fi thriller stars Ethan Hawke as a 'Temporal Agent' sent through time to prevent a crime before it happens. *Predestination* is out now on DVD, BD and digital download, and thanks to Signature Entertainment we've got five Blu-rays up for grabs.

Question:

Ethan Hawke starred in which recent award-winning drama?

Answer:

A) Birdman B) Boyhood C) Whiplash

Email your answer with '**Predestination**' as the subject heading – and include your postal address!



Midnight Run

Robert De Niro and Charles Grodin head up this brilliant 1988 action-comedy about a bounty hunter tasked with bringing a bail-jumping accountant back to L.A. *Midnight Run* makes its Blu-ray debut on April 20, courtesy of Second Sight, and we've got five copies to give away.

Question:

Robert De Niro does not star in which of the following films?

Answer:

A) The King of Comedy B) Scarface C) Goodfellas

Email your answer with '**Midnight Run**' as the subject heading – and include your postal address!

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Shack with a kit rack!

This smart-looking cinema lives at the bottom of the garden!



When HCC reader **Corrie Hollingsworth** needed space to accommodate his growing home cinema passion, he found it in his garden. Step inside The Little Movie Shack...



Introduce yourself...

I'm Corrie Hollingsworth, aged 43. I work as a welder/fabricator.

How long have you been into home cinema?

It really started back in 1997. That's when I got my first Dolby Digital amplifier, just prior to the DVD format being launched. But I've always been into audio/visual stuff.

When and why did you decide to build The Little Movie Shack?

It all started last year when I met my fiancée. We were looking at moving property to a bigger house but couldn't really find anything that was suitable for the stuff I had, and she didn't want me to sell my AV gear, because it was something I love. In fact, my previous living room system was featured in HCC #192 a few years ago.

On top of that, I had only recently bought loads of new furniture, including the electric corner sofa, which is 10ft x 7ft, so I said the only option, if we were to stay here, was to build something in the back garden. It's a big garden, so it made sense.

For the benefit of other HCC readers planning a shed cinema, did you have to get planning permission or adhere to any building regulations?

That's something of a route I didn't want to go down. I knew you could build Summer houses under permitted development rules, and that you could only build to a certain height, so had a look at the government website (www.planningportal.gov.uk). In the section on Summer houses, the rules fall under two categories – less than 15 square metres or 15-30 square metres. Mine works out at an area of 23 square metres. The only restraints I had to stick to, being that it was made from timber, was that I had to leave a one-metre gap around the build, and, of course, go no higher than the 2.5-metre max. >





Our AV-holic uses KEF THX speakers for his 7.1 array, including dipole models

How long did it take to construct? Were there any problems along the way?

Well, I was off work during the build, so it was a bit of therapy for me. It took me about eight weeks, but during this time I had to build new fencing at the side, and we had flagging and a wall built, so that slowed me down a bit. I also had to work around stuff in the room, because I had to give notice on a flat I had, so that put the pressure on. But we got there in the end!

How much, if you don't mind us asking, did it cost to build?

The build cost in total was around £9,800, but included in that I had to buy an 8ft tab-tension projector screen costing £1,100. That was a bitter pill to swallow because I'd only just bought a 7ft acoustic tab-tension model for £1,300 and had to sell it. I only got £600 for it on eBay... The fencing and flagging was in that £9,800 figure, too, so I'd say about £7,000 for the shed build, and that includes lights, wiring to the house, two layers of plasterboard, etc.

We love the ceiling lighting ring...

I got this off eBay, it's LED rope lighting. Mine is 3.5mm x 2.5mm in size, using four 5m reels at £11 each. They come as a full set – power pack, remote emitter and remote control.

What kit do you have running in the shed?

The projector is a Sony VPL-HW50ES SXRD

model, for which I have four pairs of 3D glasses. I use this with my new 8ft Grandview projector screen, which is ceiling mounted – when it's not in use I have a 60in LG 60PM680 plasma TV. I originally had moved this into the living room, but my partner wanted a smaller TV (a 47in LG model). So after doing the build without wires running I've installed it. Luckily it's close to the speaker so not much cable is showing.

On the kit shelf at the back of the room is my Pioneer SC-LX57 AV receiver and Onkyo BD-SP809 Blu-ray player (both THX certified). The speaker array is 7.1. I'm using my long-running KEF TDM 23Fs for the front channels, a TDM 23C centre, and TDM 34DS dipoles for the rear and surround channels (again, all THX certified). For the LFE channel I have a Crystal Acoustics THX-10 subwoofer.

I also have a Home Theatre PC in my setup, with an i5 processor. I use a pair of 2TB hard drives for ripped DVDs (750 approximately) and some bigger hard drives for BD movies. I've got about 235 archived with another 200 to add. For control, I'm using a Philips Pronto remote.

What's your favourite bit of kit and why?

I love the Sony projector. In 3D, that is one



amazing machine! It has great black levels and the colour is astounding, especially with films like *Pacific Rim*.

The sound system and the speakers really pack a punch, too. It's great because, being away from the house, it blocks sound pretty well. I can crank it up to -10 on the Pioneer AVR, and boy does it rock. And you can hardly hear it outside.

What's next on your equipment wish list?

Oooh, don't tempt me! I'd love a Sony 4K 3D projector, and a 4K Blu-ray player when they finally come out. I'm looking forward to this tech. I hope the prices start to come down a bit, then I may just go on a shopping trip...

I'd love to set up for Dolby Atmos, too, but that's a new amp and speakers.

What do friends and family think of The Little Movie Shack?

Well they all love it. People were so excited when I was building it, but the funny thing



The movie memorabilia includes *Aliens*, *Iron Man* and 007 collectibles



Corrie has shelf space for his HTPC, Onkyo BD player, Pioneer AVR receiver and a handy mini-fridge...



is only my brother has been round to watch a film, and that was just the once! So it's that old saying – me, myself and I.

How often do you use it?

A couple of times a week. My fiancée likes to

have a catch up with soaps, so I get kicked into 'the shed.'

Lastly, what's your favourite Blu-ray, and what do you use to show off the system?

I love all the Marvel Studios films – *Iron Man*,

Hulk, *Thor*, *Captain America* and, of course, *Avengers Assemble*. A good film to show off the system is *Guardians of the Galaxy*. With its aspect ratio changing all the time, go fullscreen and it's like a mini IMAX, and it's got great audio, especially the soundtrack ■

SHARE YOUR SYSTEM IN THE MAG!

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Is the home cinema about to get a new home? **Jamie Carter** looks at the global TV market and asks if Chinese TV makers now have the products to break through

WHERE IS YOUR home cinema from? While speakers and even amplifiers designed for discerning domestic theatre owners often come from specialist boutique brands, the centrepieces – the TV screen, the projector and the Blu-ray player – almost always hail from East Asia. Panasonic, Sony, Toshiba, Epson and Sharp were birthed in Japan, and Korea's LG and Samsung have been busy chipping away at their dominance for the last decade. But what about China? The Asian giant has long been synonymous with consumer electronics, and, although some buyers are still bemused to see the words 'Made in China' stamped on their product's box, there's a chance your next TV could come from one of its home-grown brands.

Retail figures hint at such a scenario. China took seven per cent of the worldwide TV market in 2014 (it's growing at roughly one per cent a year) and six of the top 12 places in the global TV marketshare index are occupied by Chinese companies. While Samsung and LG respectively claim 22 per cent and 14 per cent, and third place is taken by Sony at six per cent, China's TCL, Hisense and Skyworth take the next three places with around five per cent. Further down the list comes ChangHong, but it's bigger than Panasonic, which at least trumps Konka and Haier, which claim a couple of per cent each. In pure numbers, China is on the march, but that's not the whole story.

'In the global LCD TV market, Chinese TV brands have been increasing their market share significantly, but it's still highly based on local TV demands and expansion in China,' admits Jusy Hong, a TV market analyst at IHS, who points out that China is now the world's largest TV market. In comparison, the UK market is small-fry, and most of the Chinese brands have a very small presence in foreign markets, if any at all. 'Only Hisense and TCL are very actively increasing TV exports to other regions [and] I believe this will enhance their competitiveness in the global TV market.'

Hisense aims high

Although it's technically owned by the Chinese state, Hisense, based out of Qingdao in the country's northeast, is the most ambitious of the lot and is beginning to appear on home cinema shopping lists the world over. 'The USA is a target and Australia is also a good market for Hisense,' says Hong. Indeed, the corp has a couple of per cent of the US market >



WORLD'S BIGGEST TV

TCL grabs Guinness book entry for 110in beast



TCL stole some headlines at CES 2015 with its 7000R, a self-confessed record-breaker. This whopping 110in curved Ultra HD/4K TV went into history in December when it was confirmed as the world's biggest TV by the *Guinness World Records* book. Although Samsung also showed an identically-sized product, it was the 7000R that got the nod. Oddly, TCL was stating that the 7000R's image was so good that it offered almost glasses-free 3D depth, though such marketing bluster glossed-over the fact that it was far superior to any of the glasses-free concept TVs on show elsewhere.

and is one of the fastest-growing TV brands in Australia, where its sales rose by a third in the last few months of 2014.

'The Hisense brand shows a solid upward trajectory, a direct result from the efforts of a wide range of products that are well designed for any household and provide the best value for money,' believes Andre Iannuzzi, head of marketing at Hisense Australia, citing the company's 65in Ultra HD/4K TV as a key reason for its success Down Under. China's weapon of choice, of course, is the low-priced 4K flatscreen.

Hisense's sales are based partly on low prices, and partly on canny promotion of the brand name; it sponsors Melbourne's Hisense Arena, which hosts the Australian Open Grand Slam tennis tournament, as well as German football team FC Schalke 04 and NASCAR Xfinity in the US. It's reminiscent of the way Samsung and LG became household names in the UK. 'Increasing exposure of its brand name is the most important marketing tactic in the TV business,' states Hong. 'Hisense is still regarded as a cheap TV brand in the global market, although it's a premium brand in China itself.' And Hisense TVs are already sold in the UK through the likes of eBuyer, Hughes and Crampton & Moore, the latter of which sells the nattily-named LTDN65K680M3D 65in Ultra HD/4K TV for just £1,100.

Vegas-bound brands

Already the fourth largest TV manufacturer in the world and poised to soon sweep aside Sony, TCL showed up at the 2015 CES in Las Vegas to unveil one of the first quantum dot TVs, its 55in Q55H9700. Due to go on sale in the second half of 2015, the H9700 series features Quantum Dot Colour IQ tech from Lexington, Massachusetts-based QD Vision, which CEO Jason Carlson believes offers 'better than OLED colour at a fraction of the price.' It's the first

of 15 planned quantum dot TVs from TCL, featuring a 100Hz panel and modest 4,000:1 contrast ratio claim. On the Vegas showfloor, it was hard to tell exactly how those specs stacked up with the competition, but one of the less-trumped features – its built-in Harman/Kardon speakers – certainly impressed. And it should hit Europe this year.

Though more famous for owning the Alcatel OneTouch phone label – TCL (which stands for This Creative Life) stormed the USA last year with a sub-\$1,000 4K screen, and is about to open

'Six of the top 12 places in the global TV market are occupied by Chinese brands – TCL and Hisense are closing in on Sony'

a factory in Mexico. It's also purchased the licence for one of the USA's most respected brands in TV, RCA, through which it sells its Roku TVs as well as curved UHD models. Each Roku TV has a Roku streaming stick pre-installed for access to Netflix, Amazon Instant, etc.

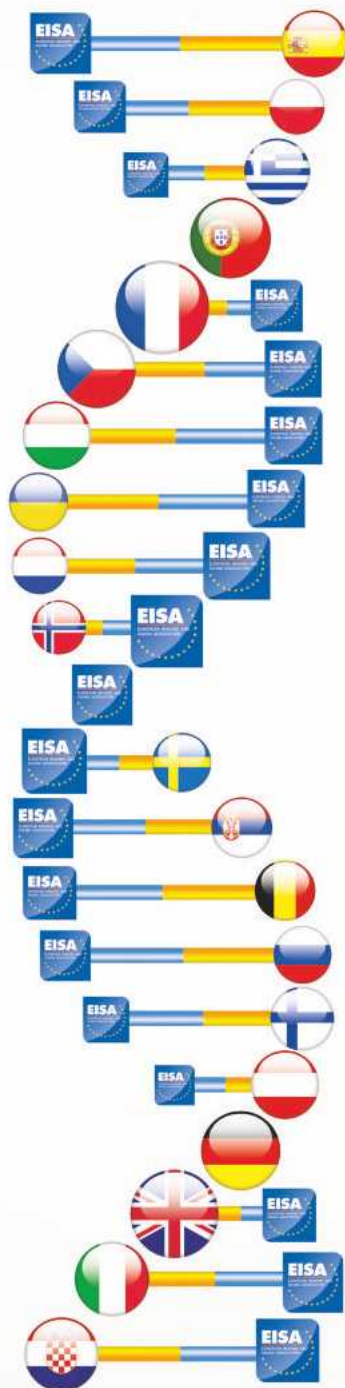
The company wasn't the only Chinese brand showcasing quantum dot at CES 2015. Hisense premiered its Quantum Dot Enhancement Film (QDEF) tech while ChangHong went one better by adding a curve to its ChiQ QD2C range of LED TVs.

Indeed, innovations emerging from China are rife, and not just where TVs are concerned. ChangHong provided a rival to the Hisense VIDAA 100in Laser TV (see boxout on p92) with its ultra-short throw Q1M, which features a U-MAX Smart TV interface, 10W stereo speaker array and a separate anti-reflection screen that's included in >

Chinese marque ChangHong set up stall at this year's CES



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the box. Meanwhile, Haier, a Chinese TV brand that's so far been concentrating on Germany, but does have a UK presence, offered a short-throw LED projector designed to be placed a couple of inches from the screen or wall – although it creates only a 60in image.

Some analysts are predicting that the 4K TV market will be dominated by Chinese brands, and there were pixel-packed innovations at CES, too. ChangHong's Q2C series of curved 4K TVs features an Android 4.4 user interface and face recognition for unlocking personal screens. Haier showed-off the 105in 105Q8000, a 21:9 curved LED TV with a resolution of 5,120 x 2,160 pixels (mathematically a 5K resolution). As well as a plethora of Smart features (poor posture alarm, anyone?), Haier's Modular TV has a Full HD LED panel that can be upgraded to a 4K version – a novel take on the flatscreen market.

And anyone that thought that OLED displays were the preserve of LG could also look to China for their next-gen fix. At CES, Haier previewed its 55H9800, a Full HD 55in model with a great-looking and ultra-slim 1.5mm brushed metal frame, while Skyworth followed up on last year's 55in E908 curved Full HD OLED with 55in and 65in OLED TVs that were both curved and sporting 4K resolutions.

Innovation or imitation?

History suggests that Chinese brands are much better at imitation than innovation; are these seemingly cutting-edge products a smokescreen? 'It does require time to get such a recognition,' says Dr Simone Corsi of Lancaster University Management School's China Catalyst Programmes. 'When Japan begun its economic development and Japanese firms started internationalising, they were the ones looked at as the imitators with their "reverse engineering" processes (and) the same applied to Korean companies.'

LASERING IN ON FILMS

Hisense has an eye on short-throw projection, too

No less than 25,000 hours of exacting brightness and colour is promised by Hisense for its VIDAA Max 100in Laser Cinema TV. This uses a blue laser diode light source to throw a 100in image from as close as 60cm to your wall. This Full HD-capable DLP beamer box doesn't need a dedicated screen. However, all of the examples being demoed at CES had one, as well as a speaker bar featuring 5.1 Dolby/DTS surround sound (thanks to wireless Bluetooth rears). As well as creating a Wi-Fi Direct hotspot for receiving video from phones and tablets, inside is the Texas Instruments DarkChip 3 DLP digital mirror device (DMD), which uses a staggering two million mirrors.



The Spro 2 from ZTE (above) is a touchscreen Android Smart projector



Hong agrees, pointing out that the history of Chinese brands is much shorter, with their enormous rapid growth due to the relatively recent LCD TV era. 'Korean and Japanese TV brands have a long history in the TV business going back to CRT,' she says. 'Having a long history has made them have a strong presence in the global market as well as local production facilities, close relationships with retailers and brand management know-how. It's difficult for Chinese companies to compete with already localised global TV brands.'

Establishing assembly plants near to key markets – including the UK – is surely the next step, because it's clear that China is shifting from being the world's manufacturer and becoming an innovation superpower. '[Eventually] the idea of China will change in the minds of Western people, and it will be easier for Chinese companies to get the recognition they merit,' says Corsi. For UK home cinema fans, it's a revolution that's just beginning; expect TVs from TCL and Haier to soon follow Hisense and achieve a dedicated UK distribution.

It might have the products, the numbers and a massive domestic market, but China-made TVs have a problem that is, for now, keeping home cinema aficionados away: picture quality. It's not a lack of technology. 'Chinese brands have been adopting the latest TV technology fast enough,' believes Hong. 'And in some cases Chinese TV brands moved faster than global brands on LED, 3D and UHD TV.'

Chinese TV buyers demand the latest TV tech, but they're not quite so picky when it comes to image definition. 'From a picture quality perspective, there is still a gap between global brands and Chinese brands,' admits the IHS analyst. The exacting demands of home cinema appear to be, for now at least, just beyond the horizon, but don't bet against your next home cinema being built around a TCL or Hisense screen ■

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PLAYBACK

→ **SOFTWARE HIGHLIGHTS** **BLACK SEA** Jude Law takes hi-def to the high seas in this claustrophobic thriller **OUIJA** Teen horror plays games with the genre **HARLOCK: SPACE PIRATE** Classic anime series gets a state-of-the-art reboot **THE BOOK OF LIFE 3D** Stylish cartoon is dead and loving it **SONS OF ANARCHY: SEASON 7** Time finally runs out for the SAMCRO bike gang **AND MUCH MORE!**

Game on!

Rollerball → Arrow Video → Region B BD

Does the sci-fi sports flick *Rollerball* deserve a place in the premier league of back-catalogue Blu-rays? Or should it be relegated to the conference division of dodgy discs? Check out our in-depth review on p99 to find out...

HCC RATINGS KEY...

Outstanding	★★★★★
Above average	★★★★☆
Acceptable	★★★☆☆
Disappointing	★★★☆☆
Dire	★★★☆☆

Even submarine captains have to put up with back-seat drivers



Thriller strikes gold underwater

Jude Law sinks to new depths to keep film fans entertained with this tale of greed and mistrust

→ **BLACK SEA**

When commercial submarine operator Robinson (Jude Law) is abruptly fired from his job with a salvage company, an old friend approaches him with a tempting offer: in 1941 a Nazi U-boat loaded with gold bars sank in the Black Sea – and he knows exactly where it lies.

With the aid of a rich benefactor, Robinson procures a decommissioned Russian submarine and puts together a team of misfits to help recover the gold. But it doesn't take long before greed and mistrust between the sub's British and Russian crew members threatens the entire operation.

Black Sea is a suitably tense and claustrophobic thriller bolstered by some great performances and taut direction that make it well worth checking out. Think *The Treasure of Sierra Madre* on a submarine and you won't go far wrong.

Picture: Shot using Arri Alexa XT digital cameras, *Black Sea* arrives on Blu-ray with a particularly striking 2.40:1-framed 1080p transfer. While the more naturalistic visual style used in the opening scenes results in some rather washed-out blacks, things get a whole lot more impressive when the action moves inside the submarine. Black levels here are not only rock solid, but they're impenetrably deep, enhancing the feeling of claustrophobia that the crew are feeling. Working in tandem with this is the vivid red, yellow and green lighting that makes the interior of the cramped and dingy vessel much more visually arresting.



HCC VERDICT

Black Sea

→ Universal Pictures
→ All-region BD → £25 Approx

WE SAY: Kevin Macdonald's compelling and suspenseful thriller looks and sounds superb in hi-def

Movie ★★★★★

Picture ★★★★★

Audio ★★★★★

Extras ★★☆☆☆

Overall ★★★★★

There's no shortage of fine detail in the transfer either, with the pin-sharp digital imagery picking out every single dent, fleck of rust and oily smear.

Audio: From *Das Boot* to *U-571*, submarine movies have a history of delivering thrillingly immersive soundtracks. *Black Sea*'s DTS-HD Master Audio 5.1 mix continues this fine tradition with aplomb.

Without ever going over-the-top and distracting from the drama, the mix conjures up an enveloping 360-degree soundfield that brings the idea of being on a submarine to life as the hull creaks and groans around you. It may only be background sound, but its value to the film should not be underestimated.

When the action hots up, so does the sound design. The explosion that rips through the engine room in Chapter 8 roars across your speaker array accompanied by a booming burst of bass – and your subwoofer is going to really thank you for giving it the makeshift sonar scene in Chapter 10 to play with, even if your neighbours won't. And when all hell breaks loose in Chapter 18, the placement of the sound of water rushing into the room is impossible to fault.

Extras: The bonus features get off to a rather poor start with *A Dive into the Black Sea*, which is a generic five-minute promo featurette that provides very little insight into the production process. Thankfully, just as you're starting to get that sinking feeling about this platter's poor selection of extras, along comes director Kevin Macdonald (*Touching the Void*, *The Last King of Scotland*) with an enjoyable and extremely informative audio commentary.

Pride

Pathé/Twentieth Century Fox
Region B BD → £25 Approx



This big-hearted film is based on the true story of a group of lesbian and gay campaigners who raised money for a small Welsh mining town during the 1984/85 miners' strike. Moving from hilarity to pathos with ease, *Pride* is a crowd-pleaser in the vein of *The Full Monty*, packing in plenty of ideological and political points amongst all of the culture-clash comedy. In addition to delivering a bright and detailed 1080p encode and surprisingly lively DTS-HD MA 5.1 mix, this Blu-ray offers up some worthwhile extras, including interviews with the people who inspired the film.



St. Vincent

Entertainment in Video → Region B BD
£25 Approx



Thank heavens for Bill Murray. Without him, this tale of a grumpy old man who befriends a young boy could easily have been the worst kind of sentimental slop. But courtesy of Murray's typically hilarious deadpan performance, it's been elevated to the status of something far more satisfying. While light on extras (just 12 deleted scenes plus a director and cast Q&A), EIV's Blu-ray is more saint than sinner when it comes to AV performance. The AVC 1.85:1 1080p encode is as richly nuanced as you could hope for, and the DTS-HD MA 5.1 soundtrack is bigger and bolder than you'd expect.



The Grandmaster

Metrodome → Region B BD
£20 Approx



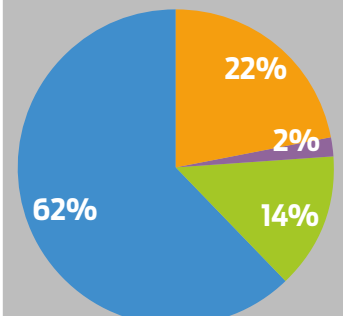
There's no denying that Wong Kar Wai's film about Chinese martial arts legend Ip Man is a work of art. What it lacks in dramatic tension it makes up for with a surfeit of style that transforms every fight scene into a beautifully nuanced ballet of move and counter-move. Despite some waxy-looking shots (possibly stemming from various post-production tweaks to the original digital photography), this Blu-ray looks and sounds quite impressive. Sadly, there are no extras – not even any of the 15 mins of footage trimmed to make this shorter 'International' version of the film.



WE ASKED...

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Manga legends gets a 3D reboot

Cutting-edge CG animation breathes fresh life into Japan's notorious space pirate

→ HARLOCK: SPACE PIRATE

In a distant future where humanity has spread across the galaxy, the Earth has become a sacred site, with the ruling Gaia Coalition refusing to let anybody return to the planet. But notorious space pirate Captain Harlock has other plans for the planet...

Manga artist Leiji Matsumoto's most famous creation has certainly come a long way since its first appearance in 1977. Thanks to the phenomenal popularity of the long-running comic and the anime series, *Space Pirate Captain Harlock* has gained iconic status, building up a huge fanbase not just in Japan, but around the world.

Director Shinji (Appleseed) Aramaki's computer-animated feature film completely reboots the franchise for modern audiences, giving viewers a darker and more angst-ridden take on the legendary character. While some old-school fans will lament the many changes made from the source material, this is still an enjoyable piece of blockbuster space opera told using state-of-the-art CG animation that sets a new benchmark for Japanese animated films.

Picture: The Blu-ray features an impressive MVC 2.40:1 1080p presentation of the film that can either be watched in 3D or 2D.

For our money, the stereoscopic 2.40:1 option is definitely the way to go with this film, as it gives the already stunning CG animation an even greater sense of depth and space. As the colour palette tends to be rather muted anyway, there's no real loss in vibrancy with the 3D incarnation, while detailing holds up well, as do the all-important black levels.



That said, as the disc's 2D version is drawn from the same core MVC 3D encode we don't have real complaints about it either – although the added brightness draws attention to some artefacts in deep, crushed shadows that aren't apparent when the film is viewed in 3D.

Audio: The Blu-ray offers a lively DTS-HD MA 5.1 English language dub full of positional effects and growling bass effects. The lack of a Japanese language track will undoubtedly annoy hardcore anime hedz, but we presume its absence is because the hi-def platter only contains the slightly truncated 'international' cut of the film.

Extras: Manga Entertainment's Blu-ray is devoid of bonus features, which is where the accompanying DVD comes in. This contains an anamorphic 2.40:1 standard-def presentation of the original cut of the film with a DD 5.1 Japanese soundtrack, plus a 23-min promo featurette made for Japanese TV.



HCC VERDICT

Harlock: Space Pirate

→ Manga Entertainment

→ Region B BD → £30 Approx

WE SAY: The lack of an HD version of the original cut is a shame, but this is still well worth a look

Movie ★★★★★

Picture ★★★★★

Audio ★★★★★

Extras ★★★★★

Overall ★★★★★

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The MVP of 'future sport' movies

Impressive AV and abundant extras ensure that this UK BD thrashes the opposition

→ ROLLERBALL

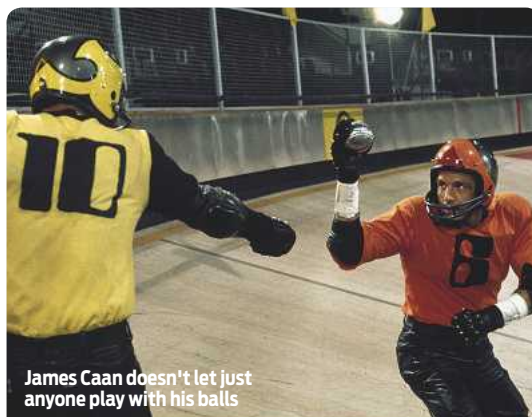
In the 'not too distant future' of 2018 the world is ruled over by giant corporations and the population is gripped by a popular and bloodthirsty new mix of roller derby and gladiatorial combat called rollerball. However, when champion player Jonathan E. (James Caan) threatens to become too popular and powerful, the secret cabal that runs the sport decides it's time to make an example of him.

Easily the best-known 'future sport' film (*Death Race 2000* runs it a close second), Norman Jewison's *Rollerball* is also the quintessential slice of 1970s dystopian sci-fi, touching on all of the cinematic themes (individual freedom, big business, drugs, the media, paranoid conspiracies, *et al*) that dominated the decade. Unfortunately, the film never quite pulls it all together coherently, but the rollerball sequences are nothing short of brilliant.

Picture: *Rollerball* made its Blu-ray debut in the US last year as one of boutique label Twilight Time's limited editions. Unsurprisingly, with only 3,000 produced, this disc quickly went out of print.

This UK Blu-ray is based on exactly the same source material and looks good. The 1.85:1 Full HD imagery feels a little warm when it comes to skin tones, but has no problems replicating the predominantly brown and beige interiors or the more vibrant primaries of the team uniforms. Meanwhile, film grain is well resolved and there's no significant print damage in evidence.

Audio: While Twilight Time's disc offered a choice of DTS-HD Master Audio mono and 5.1 mixes, Arrow opts for a more authentic LPCM stereo mix



James Caan doesn't let just anyone play with his balls

in addition to the surround sound remix. Technically, both of the tracks on the UK disc are very robust with pleasingly open front soundstages – although the 5.1 mix succeeds in adding some extra ambience during the action-packed sports sequences.

Extras: All of the bonus features from the out of print US Blu-ray edition are repeated here. These include a commentary by director Norman Jewison, a second commentary by writer William Harrison, *The Making of Rollerball* featurette (25 mins), the *From Rome to Rollerball* original EPK (eight mins) and an *Isolated Music & Effects* audio track (LPCM 2.0).

However, Arrow goes beyond this with a new interview with actor James Caan (11 mins), a tour of the film's Munich locations (19 mins), an interview with stunt artist Craig R. Bakley (18 mins) and a 28-page booklet containing an essay on the film. Equally worthy of praise is the newly commissioned sleeve art by Paul Shipper.



HCC VERDICT

Rollerball

→ Arrow Video → Region B BD

→ £23 Approx

WE SAY: The definitive Blu-ray edition of this seminal slice of 'future sport' cinema. Champion

Movie ★★★★★

Picture ★★★★★

Audio ★★★★★

Extras ★★★★★

Overall ★★★★★

The Breakfast Club: 30th Anniversary Ed.

Universal Pictures → All-region BD
£20 Approx



Any worries that this anniversary re-release would merely repack the same old HD master

Universal used for its 2010 Blu-ray are banished as soon as you press 'Play'. Based on a brand-new 4K scan, the 1.85:1-framed 1080p encode boasts a far more natural grain structure and a richer colour palette. On top of the familiar chat track, *Making of...* documentary and Brat Pack featurette from the earlier disc, this superb new platter adds a pop-up trivia track that provides a mix of behind-the-scenes facts and photos.

★★★★★

Halo: Nightfall

Animatsu → Region B BD
£16 Approx



With a big-budget Hollywood movie still trapped in development hell, fans of the *Halo* videogames will have to

make do with this second live-action web series instead. A slight improvement on 2012's *...Forward Unto Dawn*, this Ridley Scott-produced outing follows a small group of troops who run into trouble on a fragment of the Halo ring from the first game. While this may sound pretty high-concept, *...Nightfall* is actually rather unambitious. Still, the BD platter itself, thanks to its strong 1080p imagery, DTS-HD MA 7.1 sonics and array of supplementary extras, is decent.

★★★★★

Network

Arrow Academy → Region B BD
£23 Approx



The film that gave us the unforgettable quote 'I'm as mad as hell and I'm not going to take this any more' finally

gets a UK BD outing. But while Sidney Lumet's 1976 media satire remains deeply funny and scarily prophetic, there's less to get excited about where the 1080p transfer and LPCM mono sound quality are concerned. Neither is actually bad, merely as good as the dated source material allows (Foley effects sound like they were recorded in a tin shed). In lieu of the chat track and doc from the US disc, Arrow provides a video essay and an episode of *The Directors*.

★★★★★

Man of the West

Eureka! The Masters of Cinema Series
Region B BD & R2 DVD → £23 Approx



Repeated hailed as one of the greatest westerns ever made, Anthony Mann's 1958 film is as much Greek tragedy

as a tale of cowboys and outlaws. Gary Cooper stars as one of three survivors of a raid on a train, who was once one of the outlaws himself and must infiltrate the gang again in order to bring them down. While the disc's 2.35:1 Full HD encode isn't exactly flawless, it still looks slightly more refined and robust than Kino Video's US Blu-ray. This UK release also serves up a far superior batch of extras including an exclusive audio commentary and a 44-page book of essays.

★★★★★

ARCADE ACTION

Bigscreen home entertainment isn't just about movies. Check out this game vying for time on your cinema system...

The Order: 1886

Sony Computer Entertainment → PS4 → £55 Approx



This steampunk actioner is the most overtly cinematic game yet released for the PS4. Set in an alternate Victorian reality, it pitches werewolves against the descendants of the Knights of the Round Table, against a backdrop of incongruous tech and Ripper lore. In many ways, *The Order: 1886* is the best film Paul W.S. Anderson never made.

In terms of gameplay, the title is a mix of *Gears of War*-style action and puzzle-solving. This third-person shooter is also wrapped entirely in narrative. There's no online component or open-world shenanigans, but in our view that's not necessarily a bad thing. This is a uniquely cinematic gaming experience, one that makes it easy for us to forgive the routine A.I. and sometimes languorous pacing.

Graphically, *The Order: 1886* is never less than sensational. Usually, the entire game is framed in a 'scope ratio. Not only does this give the visuals a convincing bigscreen look, but it makes the cut scenes almost impossible to tell from the live play. The game also revels in visual nuance. So much so, that at times you just want to kick back and take it all in. It looks sumptuous at 1080p, but also scales beautifully to 2160p.

Texture and detail abound, adding realism to both characters and locations. Dialogue and voice acting can be considered above average; facial expressions particularly impress. The game has a native resolution of 1,920 x 800 and runs at a cinematic 30fps (fears that it would look choppy without 60fps prove unfounded). *The Order: 1886* also makes superb use of the PS4's multichannel audio capabilities, while Jason Graves's weighty, ominous orchestral score is particularly memorable, and deserving of its standalone OST release. Recorded at Abbey Road Studios, it really sounds like a big, live orchestra is playing alongside you, with a portentous choir crouched behind the sofa. The result is visceral, otherworldly and a tad scary.

There's been griping about the length of the game in some quarters, but we don't subscribe to the Michael Bay ethos of quantity over quality. If you really want to play something that never ends, dig out a copy of *Pac-Man*. But if you want to experience something genuinely different in terms of next-gen gaming, join *The Order*...



Sons of Anarchy: Season 7 – The Final Season

Twentieth Century Fox → All-region BD
£35 Approx



The writing is on the wall for many fan-favourite characters as Kurt Sutter brings his superb bike gang series to a suitably Shakespearian end. It's brutal but brilliant stuff, wrapping

up myriad loose ends while maintaining a breakneck pace towards the story's inevitable conclusion. As with previous *Sons of Anarchy* Blu-rays, the ride is made all the smoother by this three-disc set's excellent AV quality – although more in-depth extras wouldn't have gone amiss.



Wolf Hall

BBC Worldwide → All-region BD
£30 Approx



The BBC kicked off 2015 in spectacular style with this six-part miniseries based on Hilary Mantel's novels detailing Thomas Cromwell's rise to power in the court of Henry VIII.

Dripping with intrigue and intelligence, *Wolf Hall* is also perfectly cast with brilliant performances across the board – although Mark Rylance (Cromwell) and Claire Foy (Anne Boleyn) are especially worthy of praise. This hi-def release serves this piece of event TV very well, with its crisply rendered 1080i50 imagery, evocative DTS-HD MA 2.0 sonics and pleasing array of extras.



Spiral [Engrenages]: Series Five

BBC Worldwide → R2 DVD
£30 Approx



The discovery of the bodies of a mother and daughter, bound together and left in a canal, kicks off another convoluted case involving drug trafficking and gang crimes in this latest

series of the brilliant French crime drama. While this three-disc DVD release's anamorphic 1.78:1 transfers are unlikely to win any awards, they are an authentic reflection of *Spiral*'s deliberately drab aesthetic. Indeed, our only real bone of contention (as with the previous DVDs) is the complete absence of bonus features.





Doris Day (*Calamity Jane*, above) clearly can't believe how cheap this all-region BD boxset is to import from the US

Of the four films featured in the set, only *Singin' in the Rain* (below) has been released on Blu-ray before



Blu-ray boxset is going for a song

Fans of the 'Golden Age' of Hollywood musicals will want to snap up this bargain import

→ MUSICALS: 4-FILM COLLECTION

The title of this Blu-ray boxset may be lacking in inspiration, but the same certainly can't be said of the quartet of films it contains...

Previously available as a standalone release, *Singin' in the Rain* (1952) is both one of the best musicals ever made and one of the funniest examinations of the movie industry.

The Band Wagon (1953) stars Fred Astaire as an aging musical star who gets the chance to restart his career in a bright and cheery Broadway musical. Trouble rears its head when he clashes with his prima ballerina (Cyd Charisse) co-star and has to put up with a pretentious director (Jack Buchanan) who wants to transform the production into a modern re-telling of *Faust*.

Loosely based on the real-life acquaintance of Wild Bill Hickok, *Calamity Jane* (1953) is the weakest of the four films in the set. That said, it still delivers some great musical numbers and has plenty of fun with its plot about a rootin' tootin' frontierswoman (Doris Day) who heads to 'Chicag-y' to find an actress to perform in her town's saloon, and the complications in her love life that follow.

Finally, *Kiss Me Kate* (1953) stars Howard Keel and Kathryn Grayson as a divorced couple working on a musical production of *The Taming of the Shrew*. As well as its fantastic array of Cole Porter songs, the film is notable for having been shot in 3D.



Picture: As the set re-uses the gorgeous pre-existing Blu-ray release of *Singin' in the Rain*, fans should know what to expect from that hi-def platter.

The great news is that Warner Bros. has treated the other films in the set to a similar level of restoration. This has resulted in a series of truly wonderful-looking 1080p encodes, each bursting with bright colours and immaculate detailing.

The real showstopper, though, is the 3D version of *Kiss Me Kate*. The MVC 1.78:1 1080p encode manages to somehow look sharper than the 'flat' version, and is one of the more immersive examples of the form you'll ever find. Indeed, the cast of the stage production featured in the film spend so much time throwing water, confetti and anything else they can get their hands on at the camera (check out Chapter 4 for a prime example) that you've got to presume that the first few rows of the audiences must have gone home in a right state.

Audio: All of the films bar *Calamity Jane* feature DTS-HD MA 5.1 remixes that do a good job of opening up the musical numbers without sounding forced or artificial. Meanwhile, *Calamity Jane* sticks to a nicely restored DTS-HD MA 1.0 mono presentation.

Extras: In addition to commentaries for *Singin' in the Rain* and *The Band Wagon*, the set's four BD platters also offer a solid array of interviews, retrospective documentaries and archival goodies – including newsreel footage and classic cartoons.



HCC VERDICT

Musicals: 4-Film Collection

→ Warner Bros. → All-region BD (US Import) → £20 Approx

WE SAY: A brilliant Blu-ray boxset with great AV quality at a bargain price. Import it now!

Movie ★★★★★

Picture ★★★★★

Audio ★★★★★

Extras ★★★★★

Overall ★★★★★

'All for one and one for all...'



DISC
OF THE
MONTH



Latino 'toon is a work of art

Visually stunning animated film carves its own niche through a celebration of Mexican folklore

→ THE BOOK OF LIFE 3D

Thanks to the likes of *How to Train Your Dragon 2*, *Big Hero 6*, *The Boxtrolls* and *The LEGO Movie*, 2014 will be remembered as a bumper year for animated films. And while it didn't enjoy the same kind of box office success, *The Book of Life* is just as deserving of praise as those others.

Produced by fan-favourite Guillermo del Toro and inspired by the Mexican 'Day of the Dead', *The Book of Life* is not dissimilar in its gleefully ghoulish spirit to *The Nightmare Before Christmas*. But aesthetically it couldn't be further apart, telling its love story through the vibrantly coloured prism of Mexican folklore. A true animated original.

Picture: With its baroque marionette-style characters and a vibrant aesthetic inspired by Latino culture and folk-art, *The Book of Life* looks like no other 'toon we've seen – and Fox's Blu-ray shows it off brilliantly.

Whether you opt for the set's 3D or 2D 1080p presentation (each gets its own disc), you're in for a flawless experience, with both 2.39:1-framed encodes serving up a riot of garish colours and intricately rendered textures. The 'blocky' nature of the characters plays perfectly into the hands of the 3D encode, which never falters when it comes to creating subtle but convincing volumetric effects.

Nor is the stereoscopic encode short of truly eye-popping 3D showcases, as a look

at Manolo's arrival in the 'Land of the Remembered' and the subsequent parade (Chapter 15), proves.

Audio: Both video presentations are accompanied by an identical DTS-HD MA 7.1 soundtrack that's a great match for the film's inventive visual style.

Not only does the multichannel track excel at immersing you in the film's locations through its wrap-around sound effects, it's depth and range also comes in handy with the musical interludes that litter the film. Dialogue is also rich and clearly rendered – a good thing, too, given how thick some of the characters' accents are.

Extras: All of the extras are on the set's 2D platter. *The Adventures of Chuy* (three minutes) is a fun animated short featuring the film's adorable piglet. This is followed by a trio of behind-the-scenes featurettes: *Closer Look at The Book of Life* (10 minutes) provides an overview of the film's

genesis and production; *The Music of Life* (nine minutes) focuses on the songs – new and original – featured in the film; and *Digital Carpenters: Behind the Book of Life at Reel FX* (11 minutes) looks at the film's unique imagery and the animation process.

Also well worth your time is the chat track by director Jorge R. Gutierrez and collection of five art galleries.

Rounding things out are the trailer, the *No Matter Where You Are* by Us the Duo music video (three minutes), and a virtual jukebox of 16 songs from the film.



HCC VERDICT

The Book of Life 3D

→ Twentieth Century Fox → Region A/B & All-region BD → £28 Approx

WE SAY: This animated film will bring a whole new level of 2D and 3D artistry to your cinema room

Movie ★★★★★

Picture ★★★★★

Audio ★★★★★

Extras ★★★★★

Overall ★★★★★



The Serpent and the Rainbow

Fabulous Films → All-region BD
£16 Approx



Wes Craven's 1988 voodoo thriller takes its cues from a bestselling book by ethnobiologist Wade Davis, about his journey to Haiti to seek out the drug used to make zombies. A frequently overlooked part of Craven's body of work, *The Serpent and the Rainbow* is rather uneven in its mix of Third World politics and supernatural silliness, but it still packs quite a punch – particularly in its depiction of the tortures meted out by the Ton-ton Macoute. Sadly, not only is this Blu-ray devoid of extras, but the HD master shows signs of some aggressive noise reduction.



Doc of the Dead

Altitude Film Distribution → R2 DVD
£16 Approx



From films to TV shows, videogames to comic books, these days it seems like there's no part of pop culture that hasn't been overrun by the undead. This smart and savvy documentary gathers together some famous talking heads (George Romero, Simon Pegg, Max Brooks) and delivers a whistle-stop tour through the history of the zombie, making some unexpected (undead erotica) and scary ('bleeding zombie' targets for gun nuts) detours along the way. Naturally, the disc's AV prowess is dependent on the quality of the various clips and interviews. A *Doc of the Dead* trailer is the sole extra.



Coherence

Metrodome → R2 DVD
£15 Approx



Quantum physics and dinner party etiquette clash head-on in this electrifying example of 'no-budget' filmmaking. Shot in one room with eight actors for 'about the same cost as a Prius', this indie sci-fi drama follows eight friends who come together for a meal on the same night that a comet is passing overhead. What follows is an ingenious puzzle of a film that builds smartly and unpredictably towards a chilling and provocative finale. Given the film's limited resources, the DVD's anamorphic 2.35:1 transfer and DD 5.1 audio hold up rather well. Extras include a *Making of...* and commentary.



Exists

Entertainment One → R2 DVD
£16 Approx



Typical, isn't it? You wait ages for a good bigfoot movie and then two turn up within a year of each other. While *Exists* isn't quite up to the standard of Bobcat Goldthwait's superb *Willow Creek*, this lean horror flick still delivers plenty of heart-in-mouth moments and director Eduardo Sanchez proves that he still knows his way around the found footage genre. Given the various cameras used, the anamorphic 1.78:1 is surprisingly consistent and looks pretty good overall. The DVD also includes an informative three-part *Making of...* and a fun *Bringing Bigfoot to Life* featurette.



More bored game than board game

Hasbro's formulaic fright flick borrows from the best but still fails to scare up any fun

→ OUIJA

Following in the footsteps of *Transformers*, *G.I. Joe* and *Battleship*, *Ouija* is the latest movie based on a toy or game produced by Hasbro. Yet while those flicks have some hi-octane merits, *Ouija* is about as undemanding (and unoriginal) a tale as has ever been committed to film.

When her best friend Debbie (Shelley Hennig) kills herself in mysterious circumstances, Laine (Olivia Cooke) convinces her other friends to hold a seance using Debbie's ouija board to find out what happened. Of course, things don't go to plan and what follows is a hodgepodge of ideas 'borrowed' from *Ringu*, *The Exorcist*, *Paranormal Activity*, *Final Destination* and too many other films to mention.

Of course, this lack of original ideas wouldn't necessarily have been a problem if the film was actually scary. But *Ouija*'s biggest failing is that it's so bland and uninspiring that it's less terrifying than a game of *Hungry Hungry Hippos*.

Picture: You'd be hard-pushed to find fault with *Ouija*'s AVC-encoded 2.40:1 1080p imagery. Black levels are particularly impressive, filling shots with deep, imposing shadows that threaten to unleash hidden terrors at a moment's notice. Detailing is also very strong, comfortably picking out fine textures in faces and clothing.

Away from the gloom, the hi-def transfer also excels with more vibrant colours – demonstrated by the rich saturation of the flowers on either side of the path down to the swimming pool in Chapter 6.

Audio: Clearly aware that watching people mucking about with a Ouija board isn't particularly cinematic,



the filmmakers have gone out of their way to load the audio with loud noises and cheap scares.

While it's an obvious route to take, there's no denying that from a purely technical standpoint *Ouija*'s DTS-HD MA 5.1 mix delivers the goods. The spacious soundstage is bursting with well-handled steering effects and imposing LFE, while dialogue is pleasingly prioritised among all of the chaos.

Extras: Universal Pictures appears to be seriously scaling back on extra features for all but its biggest releases these days, and (despite worldwide grosses just shy of £100m) *Ouija* is no exception.

The Spirit Board: An Evolution (four minutes) provides a quick overview of the history of the Ouija board. *Adapting the Fear* (four minutes) talks to the cast and crew about making the film. Finally, *Icon of the Unknown* (four minutes) features more interview snippets with the cast and crew, this time discussing the game and their own experiences with it. Yawn.



HCC VERDICT

Ouija

→ Universal Pictures
→ All-region BD → £25 Approx
WE SAY: Picture and sound quality may be excellent, but that's still not enough to make this worth a look

Movie ★★☆☆☆

Picture ★★★★★

Audio ★★★★★

Extras ★☆☆☆☆

Overall ★★☆☆☆



Killer comedy gets its hooks into HD

Notorious exploitation classic arrives on Blu-ray with a bumper crop of bonus goodies

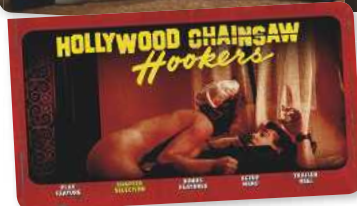
→ HOLLYWOOD CHAINSAW HOOKERS

The search for a teenage runaway (Linnea Quigley) lands Los Angeles private investigator Jack Chandler (Jay Richardson) in hot water when it turns out that she's involved with an ancient Egyptian cult that worships chainsaws. Naturally.

Low-budget filmmaking has a proud history of cooking up genre flicks with the most outlandish titles imaginable. Schlock auteur Fred Olen Ray's 1988 comedy-horror *Hollywood Chainsaw Hookers* stands out from the pack as being one of the very few to live up to its name. Fans of cartoonish violence, gratuitous nudity and iconic '80s scream queens need look no further...

Picture: First impressions of the 1.78:1-framed Blu-ray encode aren't particularly strong. Not only does the image look over-processed, but it's also riddled with small scratches and larger 'tramlines'. However, as the director reveals in his commentary, this is because the first reel of negatives has been lost, so in restoring the film for Blu-ray they were forced to use the first reel from a (pretty rough-looking) 35mm answer print to plug the gap.

Once those first seven minutes are over and the source moves to a 2K scan of the original 35mm camera negatives, the image quality picks up hugely. It is, quite simply, the best this film has ever looked.



Now there's a sight for 'saw eyes...



Scream queen Linnea Quigley shares her fitness tips (top left)

Audio: While dialogue and music are both well handled, the disc's DTS-HD MA 2.0 and 5.1 mixes both fall some way short of the picture

quality. The main problem is that there's a lot of unwanted background audio (such as camera noise) inherent in the original recordings.

Extras: In addition to plenty of extras devoted to *Hollywood Chainsaw Hookers* itself (including two chat tracks and a new 22-min retrospective doc), this Blu-ray also finds space for the brilliantly awful 1990 hour-long *Linnea Quigley's Horror Workout* (with its own commentary from the director and star).

HCC VERDICT

Hollywood Chainsaw Hookers

→ 88 Films → Region B BD

→ £20 Approx

WE SAY: Loaded with brilliant extras and looking better than ever, this is a must-own BD for exploitation fans

Movie ★★★★★

Picture ★★★★★

Audio ★★★★★

Extras ★★★★★

Overall ★★★★★

The Manchurian Candidate

Arrow Academy → Region B BD & R2 DVD → £23 Approx



Conspiracy thrillers don't come any better than this 1962 film – and the great news is that this UK Blu-ray does it full justice.

Based on the same remastered HD source as MGM's 2011 US

platter, Arrow's disc looks similarly impressive while offering slightly more picture info (by virtue of presenting it at 1.78:1 as opposed to the 1.75:1 crop used by MGM). Better still, there's no trace of the horribly artificial DTS-HD MA 5.1 remix that blighted the US BD; instead we get an LPCM version of the original mono soundtrack. Add to that some fascinating extras and you won't need to be brainwashed into picking up this excellent platter.



Wooden Crosses

Eureka! The Masters of Cinema Series Region B BD & R2 DVD → £23 Approx



A huge hit on its original release in 1932, French filmmaker Raymond Bernard's answer to *All Quiet on the Western*

Front is a remarkable and powerful piece of cinema that has been all-but forgotten in recent decades. Based on a new 4K restoration, this Blu-ray should go some way to redressing that. The AVC 1.19:1 Full HD encode highlights the stark beauty of the film's cinematography, while the LPCM mono audio does a superb job of handling the film's inventive soundtrack. Detailed explorations of the restoration process and creation of the film's audio are among the Blu-ray's ample extras.



Darling

StudioCanal → Region B BD £23 Approx



Lauded at the time of its release, John Schlesinger's 1965 drama about the life and loves of a rather

amoral young model (Julie Christie) hasn't stood the test of time too well. While it's hard to fault Christie's sizzling central performance, elsewhere *Darling* proves to be a rather awkward transitional affair, pitched somewhere between the kitchen sink drama of the late '50s/early '60s and the more stylish Swinging London movies that would follow. On a more positive note, the film's striking 1.66:1 black-&-white cinematography has been lovingly restored for this HD release.





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→ **GEAR GUIDE** **TELEVISIONS** From entry-level 40in LEDs to flagship 4K monsters
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Outstanding	★★★★★
Above average	★★★★☆
Acceptable	★★★☆☆
Disappointing	★★☆☆☆
Dire	★☆☆☆☆

TOP 10 TELEVISIONS

All prices are approx and may have changed

**Sony KD-65X9005B** → £3,600

★★★★★

A groundbreaking set from Sony. The 'Wedge' cabinet design affords room for a best-in-class audio performance from the side-mounted speakers, while imagery is hard to fault, with crisp 4K visuals and impressive motion. *HCC #236*

**Samsung UE65HU8500** → £4,000 ★★★★★

This second-gen 4K flagship is a first-rate (curved) flatscreen with colour-rich, lethally-sharp images. The external connections box provides welcome futureproofing. *HCC #234*

**Samsung UE55HU7500** → £2,300 ★★★★★

Don't want the curved form or higher price of the HU8500 range? Then step down to this flat model. No One Connect box, but otherwise it's equally impressive in PQ terms. *HCC #239*

**Panasonic TX-42AS600** → £430 ★★★★★

An example of the value that can be found in modern-day Full HD sets. This 42-incher offers the best elements of Panasonic's Smart system, dynamic images and a great price. *HCC #240*

**LG 65UB980V** → £3,000 ★★★★★

LG's 65in 4K display hides its size well courtesy of a super-cool bezel/stand design. Performance is generally excellent, barring a few backlight niggles, and the onboard speakers are fab. *HCC #241*

**LG 55EC930V** → £2,000 ★★★★★

OLED at an attainable price (well, almost), this 55-incher employs LG's WebOS platform and curved design. Full HD resolution, but the picture quality is stunning at times. *HCC #243*

**Linsar X24-DVD** → £300 ★★★★★

Many brands ignore screen sizes below 32in, so credit to Brit corp Linsar for releasing this 24in DVD-spinning Smart LED screen with punchy onboard speaker system. *HCC #244*

**Panasonic TX-55AX902** → £3,000 ★★★★★

Superior screen uniformity and crystal-clear detailing abound with Panasonic's pricey flagship LED screen, but motion processing isn't perfect. *HCC #244*

**Finlux 50F8075-T** → £600 ★★★★★

The best screen we've seen yet from the direct-retail brand, this 50-incher matches its affordability with a great user interface and solid, but not awe-inspiring, HD visuals. *HCC #234*

**Samsung UE40H6400** → £650 ★★★★★

This mid-market TV will probably sell like hotcakes. It ignores 4K in favour of Full HD, and combines a pleasing AV performance with plenty of useful Smart features. *HCC #236*

TECH INFO: TELEVISIONS



What? No plasma?: The TV market is now dominated by LED-lit LCD screens. Manufacture and sale of plasma display panels (PDPs), which previously came into play above 42in, has ceased, although you may still find some end-of-line stock. With LED comes newer technologies. 4K models with a native resolution of 3,840 x 2,160 should at least be on your audition list if you're thinking of a new display; curved models are also a consideration if you want to really impress the neighbours. OLED technology is championed by LG.



Active or Passive: At the beginning of the 3D era, most TVs featured the Active system that uses relatively expensive, powered 3D specs to deliver full-res images to each eye. Passive 3D TVs, which are now more common, have a filter over the screen and use non-powered specs with polarising filters. The glasses are cheap as chips, but the resolution of Full HD 3D is halved to 540 lines horizontally (but remains at 1,920 vertically). The same halving occurs with a 4K screen. Some brands offer both Passive and Active models, depending on the panel used. Glasses-free 3D, heralded by Toshiba's early ZL2 TV, hasn't caught on, but still may make headway.

TOP 5 BLU-RAY MOVIES

**Fury**

This gory WW2 tank drama rains artillery fire on your viewing room with a precise 5.1 DTS HD mix, and offers a moody 2.40:1 transfer that conveys the shot-on-film authenticity director David Ayer was aiming for.

★★★★★

**The Babadook**

The multichannel mix for this mature Australian horror flick mixes menacing bass with an eerie score that'll scare you silly, while the BD ups the fright-factor with its high-contrast 2.40:1 visuals.

★★★★★

**Paddington**

The pawed Peruvian gets a chance to shine on the bigscreen in this mischievous live action/CGI mashup. Junior AV-holics will dig the comedy antics, while even the grumpiest adults will savour the pin-sharp picture.

★★★★★

**Edge of Tomorrow 3D**

Tom Cruise's oh-so-enjoyable sci-fi caper didn't light up the box office, but it should be given a warm welcome on BD. Image quality here is sublime, and the 7.1 soundmix marries brutal bass with whizzy effects.

★★★★★

**Lucy**

Director Luc Besson covers some big ideas in this loony sci-fi flick, but doesn't ignore his passion for madcap car chases and choreographed action. Brilliant fun, and on a Blu-ray that relishes the stylised visuals.

★★★★★

Top 10 BLU-RAY PLAYERS

All prices are approx and may have changed

- 1**  **Oppo BDP-103D → £600 ★★★★★**
 Oppo's first deck for two years was worth waiting for. The universal BDP-103EU featured a class-leading build and all manner of bonus goodies, including twin HDMI inputs. AV performance was faultless, and the onscreen menus superb. This newer model, the BDP-103D, adds Darbee Visual Presence processing for you to play with. HCC #228
- 2**  **Oppo BDP-105D → £1,100 ★★★★★**
 This heavyweight deck builds upon the premium picture performance of the BDP-103D with a wealth of audiophile upgrades – if you're serious about music, check it out. HCC #234
- 3**  **Arcam FMJ UDP411 → £1,200 ★★★★★**
 Pristine visuals – including upscaled SD – and a classy sonic performance grant this Arcam instant appeal. The design and build is commensurate with the premium price tag. HCC #244
- 4**  **Sony BDP-S7200 → £220 ★★★★★**
 A Sony deck without the curious angular design, the BDP-S7200 offers SACD support, hi-res audio streaming and 4K upscaling that's worth investigation. Not too pricey, either. HCC #239
- 5**  **Panasonic DMP-BDT700 → £500 ★★★★★**
 Claiming THX-certified 4K upscaling and HDMI 2.0 60p passthrough, this mid-range deck from Panasonic is a good partner for a modern display. Great audio option, too. HCC #237
- 6**  **Samsung BD-H6500 → £130 ★★★★★**
 Our current fave bargain BD deck – actually Samsung's 'flagship' model – is packed with Smart features, including support for the brand's multiroom system, and super-quick operation. HCC #236
- 7**  **Denon DBT-3313UD → £900 ★★★★★**
 As a 'transport', this universal deck lacks built-in decoders and analogue outs, but partner it with one of the brand's AVRs via Denon Link HD and you'll be rewarded. HCC #217
- 8**  **LG BP645 → £100 ★★★★★**
 An affordable, likeable offering from LG. The BP645 claims Spotify compatibility and Wi-Fi-enabled headphone listening among its bonus features. Slim but lightweight design. HCC #236
- 9**  **Pioneer BDP-160 → £130 ★★★★★**
 The successor to the BDP-150 adds integrated Wi-Fi, making media file playback simpler. The Smart cupboard is still practically empty, but SACD support softens the blow. HCC #227
- 10**  **Toshiba BDX5500 → £120 ★★★★★**
 The key attraction of Toshiba's £120 player (aside from its 3D, Miracast, 4K scaling and DLNA features) is its small form factor and vertical alignment. Good for space-tight setups. HCC #238

TECH INFO: BLU-RAY PLAYERS

Matching your deck to your AV receiver: Blu-ray decks are designed to deliver top-notch images but Blu-ray is also about enjoying superior quality sound. When choosing a player, bear in mind the connectivity and decoding features of your AV receiver. If you're still using an older model that doesn't offer HDMI inputs, then you'll need a Blu-ray player with multichannel analogue audio outputs to enjoy decoded hi-res surround sound formats. Similarly, older but still HDMI-equipped receivers may not be able to cope with 3D video signals, in which case you'll need a deck with dual HDMI outputs – one channelling audio to your receiver amp, the other piping video direct to your TV.

What about the PlayStation?: Sony's console still represents an easy path to hi-def heaven. For a low-budget home cinema system, the £200 PS3 Slim (160GB) makes a decent choice – especially if you like playing games (in 3D, if you fancy it). Control via a joypad is a pain, though, and the console runs more noisily than most BD spinners. The newer, more expensive PS4 is a much better gaming machine, but won't play CDs!



DEMO DELIGHT

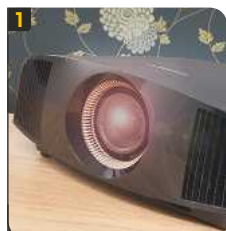
Edge of Tomorrow: This enjoyable, FX-packed Tom Cruise sci-fi scooped the Best Picture Quality gong in our Movie Awards. Shot on film for a realistic aesthetic, it transfers over to Blu-ray with a pristine 1080p image. The detailing is simply astonishing!

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TOP 10 PROJECTORS

All prices are approx
and may have changed**Sony VPL-VW300ES** → £5,800

★★★★★

Auditioning the newest, most affordable member of Sony's 4K range is a no-brainer. It loses a shade of brightness and the lens memory feature of its VPL-VW500ES stablemate, but retains the cinematic verve. Top of the class. *HCC #243*

**JVC DLA-X500R** → £5,000 ★★★★★

Armed with a more adept third generation of the brand's proprietary e-shift technology, the X500R continues JVC's winning ways – contrast rich, sharp and full of tweaks. *HCC #232*

**Epson EH-TW7200** → £1,900 ★★★★★

Priced to appeal to those unable to dabble in the £3,000 market, Epson's mid-ranger is a great purchase. No frame interpolation on offer, but colours, contrast and brightness impress. *HCC #232*

**JVC DLA-X700R** → £7,300 ★★★★★

A hefty chunk more expensive than the X500R, but with an improved contrast performance (and more flexible installation options) that will reward those who splash the cash. *HCC #238*

**Optoma HD50** → £1,000 ★★★★★

With a retweaked user interface that improves upon previous Optoma light-cannons, the 12V-trigger-toting HD50 is a brilliant budget buy. *HCC #239*

**Epson EH-TW6600W** → £1,700 ★★★★★

This offers plenty of bang for your bigscreen buck, including wireless HD (with switching skills), flexible setup, useful processing features and a punchy, vivid image quality. *HCC #241*

**BenQ W1070+** → £650 ★★★★★

An accomplished low-budget DLP model, the W1070+ offers ISF-certified calibration and a 12V trigger in conjunction with a sharp, bright, detailed performance. Bit of a bargain! *HCC #240*

**Philips Screeneo HDPI590** → £1,500 ★★★★★

Neatly designed, the Screeneo offers ultra-short throw projection thrills, albeit at 720p (and the DVB tuner is SD). Good speakers and networking skills complete a nice package. *HCC #233*

**Sony VPL-HW55ES** → £2,800 ★★★★★

Not one of Sony's 4K models, but this keenly priced Full HD projector delivers where it counts, with solid calibration options, simple setup and brilliant 2D visuals. No 12V trigger. *HCC #230*

**Epson EH-TW9200W** → £3,000 ★★★★★

A brilliant mid-range projector with wireless HD transmission and ISF certification, yet the noise generated when running in 'Normal' lamp mode could be a concern for some. *HCC #231*

TECH INFO: PROJECTORS



Installation: Although projectors can be temporarily placed on a cupboard, stand or shelf situated at the rear of the room (use the adjustable feet on its base to level the image so that it aligns with the screen), a much better long-term solution is to mount it on your ceiling with an appropriate bracket. Projectors can be quite heavy, though, so it's important to ensure that the bracket is attached firmly – ideally, it should be secured to a joist. Position your PJ so that an imaginary line from its lens to the opposite side of the room hits the screen exactly half-way along its width. The location of your screen should therefore dictate where your projector is. A decent tape-measure or laser pointer will help you to determine the position.

Throw distance: Throw distance specifies the distance between the projector and screen for a focused image of given size. As the vast majority of projectors are equipped with a zoom lens, minimum and maximum throw distances are often specified – say, 3.01m to 6.08m for a 100in. 16:9 image. Shorter throw distances are ideal for smaller rooms, and longer ones for larger rooms. Simple.

Throw ratio: Sometimes, a manufacturer will quote a throw ratio rather than a throw distance. This is basically the throw distance divided by the image width. To get the projected image size, divide the distance between projector and screen by the specified figure. Once again, the inclusion of a zoom lens means that upper and lower figures are usually specified.

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Top 10 SPEAKERS

All prices are approx and may have changed



B&W 683 Theatre 5.1 → £2,750



The first step on the floorstanding ladder in B&W's speaker stable, the revamped 600 Series incorporates new tweeter and bass driver designs and offers absurd value for money. Not the prettiest cabinets, but you really won't care. *HCC #234*



KEF R Series 7.1 → £6,500 ★★★★★

A 7.1 array mixing dipolar and direct surrounds, this authoritative package takes its cues from KEF's Blade concept speaker and offers faultless, largescale home cinema sonics. *HCC #217*



DALI Rubicon LCR 5.1 → £6,275 ★★★★★

Trickle-down tech from DALI's high-end Epicon speakers (including ribbon/dome hybrid tweeters) squeezed into on-wall cabinets – supremely adept with music and movies. *HCC #238*



Kreisel Sound Quattro 7.2 → £8,500 ★★★★★

Mixing two mammoth woofers with some surprisingly manageable multi-tweeter speakers (including TriFX surrounds) this US package is supremely assured. *HCC #232*



Artcoustic Spitfire SL 7.2 → £17,000 ★★★★★

Slimmed-down cabinets now even easier to install on-wall or behind a screen, with a multi-driver design ensuring they're easy to drive to high SPLs. Ideal for dedicated rooms. *HCC #233*



Tannoy Precision Series 5.1 → £4,450 ★★★★★

These speakers' classic look belies the brand's hi-fi heritage, but this multichannel setup works wonders with movies, too – a rich, large and dynamic sound is on offer. *HCC #226*



Definitive Technology ProCinema 600 → £500 ★★★★★

A compact system which achieves impressive scale courtesy of additional passive radiators mounted in the satellite cabinets. Slick styling and a cohesive, fun sound. *HCC #244*



Monitor Audio Radius R90HTI → £1,500 ★★★★★

The Radius speakers have been revamped with new drivers and rear ports, and this 5.1 set provides a clear, detailed sound with plenty of heft. Floorstanders are an option, too. *HCC #230*



Roth OLi RA 5.1 → £850 ★★★★★

A floorstanding array with neat design and reassuring build, this value-for-money pack delivers an impressive slice of scale to go with its full-range prowess. *HCC #233*



Mission M³ → £700 ★★★★★

The delightfully-designed cube cabinets of this dinky sub/sat setup are surprisingly effective at dispersing movie soundtracks. Could use some sharper detail clarity, though. *HCC #245*

TECH INFO: SPEAKERS



Centre speaker: Handles most of the dialogue and onscreen effects. Should be positioned above or below the screen as close to it as possible. Of course, if you're using a projector screen, it should ideally be placed behind it.

Front speakers: Left and right speakers should be positioned either side of the screen, in line with the centre. Turn the speakers in slightly to face the listener if there isn't an even movement of sound across the front of the room.

Subwoofer: Can be positioned wherever it sounds best or can be tucked out of sight due to the non-directional nature of low-frequency signals. Be aware that close positioning in corners or next to walls can create a boomy effect.

Surrounds: Position alongside the listener, pointing in or slightly behind the ears for a good surround effect. The back wall is not a good position for surrounds – it is, in fact, where you should locate the sixth and seventh speakers (rears) in a traditional 7.1 array.

DEMO DELIGHT

Godzilla: Hollywood tackles the iconic aquatic beastie once again, and the Blu-ray comes armed with a DTS-HD MA 7.1 mix that's dynamic, powerful, aggressive, detailed and expansive from start to finish. Check out Chapter 8's M.U.T.O. circling sequence for a masterclass in precision and control.

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TOP 10 AV RECEIVERS/AV PROCESSORS

All prices are approx and may have changed

**Onkyo TX-NR3030** → £2,500

★★★★★

The current king of Atmos AVR, this 11-channel design enables four height speakers to be added to an existing 7.1 array with ease. Lithe on its feet and with exemplary steering, this is multichannel audio at its best. *HCC #245*

**Denon AVR-X5200W** → £1,700 ★★★★★

Offering Atmos – and Auro-3D via a paid upgrade – the Denon X5200W offers nine amp channels and 11.2 processing. Energetic sound and flexible setup. *HCC #243*

**Onkyo TX-NR838** → £1,000 ★★★★★

A nicely-specced mid-range AVR, offering 5.1.2 Atmos playback (as well as regular 7.1) in addition to HDCP 2.2 support, which will please future-gazers. Crisp-sounding sonics. *HCC #240*

**Arcam AVR750** → £4,000 ★★★★★

If all you want from an AV receiver is vast power and effortless performance, this high-end 7.1-channel beast is tailored to you. Little bonus features beyond audio networking. *HCC #225*

**Marantz NR-1605** → £600 ★★★★★

A brilliant option for those cowed by full-form AVRs, the NR-1605 sees Marantz retool its slender line to include integrated Wi-Fi and Bluetooth. Agile, sprightly and easy to use. *HCC #239*

**Datasat LS10** → £10,000 ★★★★★

The 'entry-level' AV slab in Datasat's home audio range, this processor (upgradable to Auro-3D for a fee) is all about precision. Feature-lite, but it sounds phenomenal. *HCC #244*

**Yamaha RX-A3040** → £2,000 ★★★★★

This superb Atmos-ready flagship AVR features a fluid, dynamic sonic signature, slick operation and reassuringly robust design and build. Good in stereo mode, too. *HCC #239*

**Primare SPA23** → £3,500 ★★★★★

A stripped-down five-channel amp that majors on sublime, and power-packed, multichannel delivery. Limited functionality, but that's not what this luxury slab is all about. *HCC #237*

**Pioneer VSX-924** → £500 ★★★★★

Pioneer's newest £500 model brings Bluetooth and Wi-Fi, an even better control app, HDMI 2.0 specification and under-the-hood tweaks. A great-value, good performer. *HCC #236*

**Yamaha RX-V577** → £500 ★★★★★

Loaded with DSP modes (some fun, some not) and Wi-Fi-enabled for audio streaming, this clean-sounding Yamaha is a great low-budget option. Bluetooth via optional dongle. *HCC #237*

TECH INFO: AV RECEIVERS



Tackling new heights: A recent innovation in AVR circles is the introduction of Dolby Atmos, the object-based sound format that has taken off in commercial cinemas and is supported in the home by the likes of Onkyo, Pioneer, Denon, Marantz and Yamaha. This requires new height speakers in addition to a regular 'flat' 5.1 or 7.1 speaker configuration. The heights can either be physically mounted in/on your ceiling, or provided via up-firing reflective models. Setup can be complex, but the results are certainly impressive. Atmos-encoded Blu-rays are a bit thin on the ground, but you can use Dolby Surround post-processing with regular 5.1/7.1 soundtracks to get the most from your new AVR/speakers. Rivals to Atmos are Auro-3D, which uses height speakers in a different configuration, and the forthcoming DTS:X. Most AVR brands have already pledged support for the latter.

How much power?: Many of the mass-market AV receiver manufacturers are involved in a specifications race to see who can say their model is the most powerful, which can be confusing for consumers. For instance, both Krell's £7,000 S-1500 seven-channel power amp and Yamaha's £500 RX-V675 both claim 7 x 150W – the important part is that Krell's figure is into an eight-ohm load with all channels driven, and that Yamaha's is with one channel into a four-ohm load, which is hardly a real-world situation. The best advice is ignore the numbers game and get a demo of your desired AVR with the same, or similar, speakers that you intend to partner it with.

TOP 5 BONUS FEATURES

**Scream Queens: Horror Heroines Exposed**

Found on 88 Films' recent hi-def outing for classic 1980s slasher *Graduation Day*, this feature-length doc lets some of the genre's leading ladies reminisce about the horror industry.

★★★★★

**Gravity: Mission Control**

A fascinating nine-part documentary that tells you everything you could ever want to know about the technical challenges that had to be overcome to create Alfonso Cuarón's sci-fi smash.

★★★★★

**The Furious Gods: The Making of Prometheus**

Ridley Scott's films always come loaded with extra features (remember *Blade Runner?*) and *Prometheus* is no exception. This is easily one of the best *Making of...* docs ever made.

★★★★★

**Episode Reconstructions**

Only 20 of the 49 episodes of the BBC sci-fi series *Out of the Unknown* still exist in the archives. Thankfully, the BFI's DVD boxset uses surviving audio and stills to reconstruct several of these missing shows.

★★★★★

**Evolution with Extinction**

Clocking in at around two hours, this eight-part supplement looks at every aspect of the creation of Michael Bay's *Transformers: Age of Extinction*, from developing the story right up to the film's Hong Kong premiere.

★★★★★

Top 10 SUBWOOFERS

All prices are approx & may have changed

- 

SVS SB-2000 → £650 ★★★★★
This follow up to the SB-1000, which incorporates a new 12in driver and revamped Sledge DSP amplifier, offers immense value for money. A mid-sized woofer that imbibes your Blu-rays with potent LFE, the SB-2000 sounds quick and taut, and is a perfect introduction to what a truly good sub can accomplish. HCC #233
- 

JL Audio Fathom F212 → £5,900 ★★★★★
The US brand arrives in the UK in style – this 2 x 12in, 3,000W brute not only looks gorgeous, it's capable of a mindblowing performance. Got a big room? Get one of these! HCC #214
- 

Tannoy TS2.12 → £550 ★★★★★
The TS2.12 is easily Tannoy's best woofer yet – using a 12in driver (opposite a passive 12in cone) and 500W amp to deliver a rich bass performance. Affordable and good-looking, too. HCC #208
- 

REL S-5 → £1,600 ★★★★★
A step up from the T series (below), this 12in model is large and weighty, with a performance level to match. Fast and tight but capable of dropping very low indeed. HCC #234
- 

Bowers & Wilkins DB1 → £3,250 ★★★★★
Featuring a bipolar arrangement of 12in drivers powered by 1,000W of amplification, B&W's stylish flagship sub is a faultless performer, offering both musicality and sheer muscle. HCC #197
- 

REL T-7 → £650 ★★★★★
The T-7 uses an 8in driver in tandem with a 10in passive radiator, and features simultaneous speaker-level and LFE inputs and Class A/B amplification. An excellent all-rounder. HCC #223
- 

Bowers & Wilkins PVID → £1,200 ★★★★★
One of the coolest-looking subs on the planet, B&W's PVID uses DSP trickery to craft an opulent low-end performance. The touch-sensitive OLED display is pure class. HCC #212
- 

JL Audio E-Sub e112 → £2,050 ★★★★★
This 12in, 1,500W model from JL Audio's 'entry-level' line seems pricey, but its performance, design and tuning options make the investment oh-so worthwhile. HCC #240
- 

REL Habitat 1 → £1,300 ★★★★★
With its LongBow wireless system and wall-mountable design, REL's newest woofer is aimed at those seeking discreet bass. Twin 6.5in drivers work fast and with considerable grip. HCC #231
- 

SVS PB-2000 → £750 ★★★★★
The ported sibling to the SB-2000, this woofer uses the same driver and amp arrangement, but in a far larger cabinet. Bass goes deeper, but not at the expense of finesse. HCC #243

TECH INFO



Why use more than one sub?: Using two subwoofers (or perhaps four) should, in theory, bring huge rewards in terms of bass performance. But remember that LFE is a tricky beast to control. Running two subs may simply double problems in your room like room boom and suck-outs, where outgoing and reflected bass sounds cancel each other out. If you have some flexibility in where you place subwoofers, trial and error may well throw up some interesting results. The acoustics wizard Floyd E Toole (his book *Sound Reproduction: The Acoustics and Psychoacoustics of Loudspeakers and Rooms* is fine bedtime reading) suggests one LFE sub to either side of the room may be best for accuracy while placing them in the front corners would be best for overall bass power. Yet there is no hard and fast rule as to what will work best for every room, and you may find that simply using one (large) subwoofer is preferable as it's the easiest to get sounding right.

DEMO DELIGHT

The LEGO Movie: This colourful, great-looking animation from Warner Bros is a visual treat on Blu-ray, and matched by a 5.1 DTS-HD Master Audio mix that revels in its use of the LFE channel. Stonking bass is the order of the day here – the bangs, thumps and explosions of the manic 'toon action are underpinned by a forceful, full-bodied low-end that's guaranteed to get the most out of your subwoofer.

Top 5 HD GAMES



Halo: The Master Chief Collection
Xbox One releases don't come much more essential than this collection of remastered HD versions of the first four *Halo* games, plus access to the beta version of the upcoming *Halo 5*. ★★★★★



Far Cry 4
Ubisoft cements its position as the undisputed king of the 'sandbox-shooter' as it serves up a beautifully-rendered and sonically immersive Nepalese nation state for you to blast your way around. Huge fun. ★★★★★



Alien Isolation
This fantastic 'survival-horror' captures the unsettling atmosphere of Ridley Scott's feature film with aplomb. The lighting effects and audio cues are suitably spooky, and the gameplay is nerve-shredding. ★★★★★



Middle-earth: Shadow of Mordor
A third-person adventure set between the events of the *Hobbit* and *Rings* trilogies, Tolkien fans will lap this up. Graphically rich, and with a hard (but rewarding) learning curve. ★★★★★



Dragon Age: Inquisition
Finished with *Skyrim*? Then pick up this third instalment in the *Dragon Age* fantasy RPG series. A great-looking title, with plenty of side-quests littered around its vast open world to keep you adventuring for hours. ★★★★★

TOP 10 ACCESSORIES

All prices are approx and may have changed

- 1 Now TV box → £10 ★★★★★**
 An unqualified bargain, this Wi-Fi VOD streamer from Sky (and built upon Roku hardware) brings BBC iPlayer, Demand 5 and the Roku Channel Store to any HDMI-toting telly, plus subscription access to Sky Movies and Sky Sports. The quality of the adaptive bitrate streaming is impressive, and the £10 tag gets you P&P and an HDMI cable. *HCC #226*
- 2 Devolo dLAN 650 Triple+ starter pack → £120 ★★★★★**
 This package makes Powerline networking fast (claimed at up to 600Mbps) and easy. The three-port Ethernet extender is sleekly designed, and provides a regular plug socket, too. *HCC #239*
- 3 Dune HD Base 3D → £250 ★★★★★**
 A media player for the AV enthusiast. Full-width and fully-featured, it provides support for 3D BD rips and much more, with a slick user interface and plenty of connectivity. *HCC #235*
- 4 Amazon Fire TV → £70 ★★★★★**
 A media player for the Smart generation, this affordable puck features class-leading voice recognition that makes content browsing fun – indispensable for Amazon Prime lovers. *HCC #243*
- 5 HDAnywhere mHub → £1,000 ★★★★★**
 An impressively flexible multiroom solution that allows HD video and audio to be sent via Cat cable to four displays from multiple sources. Includes HDMI mirroring, too. Handy. *HCC #240*
- 6 Philips Hue → £180 ★★★★★**
 These Wi-Fi enabled lightbulbs might be expensive (this £180 starter pack includes two, plus the Wi-Fi bridge) but making your own multicoloured lighting scheme is a blast. *HCC #220*
- 7 Panasonic HC-X1000 → £2,500 ★★★★★**
 A 4K camcorder aimed at more than just the point-and-shoot brigade, this prosumer model drips with features and can capture movies/still images with astonishing clarity. *HCC #244*
- 8 Monitor Audio Airstream A100 → £400 ★★★★★**
 Partner your TV with the speakers of your choice with this networked, AirPlay-streaming two-channel amp. Great, svelte design – bit awkward to control, though. *HCC #238*
- 9 Microsoft Xbox One → £430 ★★★★★**
 Not as graphically potent as the PS4 (below) but the new Xbox lives up to its billing as a home entertainment hub – voice control and multi-tasking tricks prove very useful. *HCC #230*
- 10 Sony PlayStation 4 → £350 ★★★★★**
 The PS4 offers a killer gaming experience, with the under-the-hood power resulting in great-looking games. 3D Blu-ray playback has now been added via firmware. *HCC #229*

TECH INFO: MEDIA PLAYERS



What about my TV?: Most flatscreen TVs from the major brands (Sony, Samsung, Panasonic, LG, Toshiba and Sharp) also incorporate media player functionality, using Ethernet or Wi-Fi to stream from your home network, or from plugged-in USB drives. Most modern Blu-ray players offer this, too. However, file support is rarely as extensive as on dedicated devices from the likes of Western Digital and A.C. Ryan, and our experience shows some are more adept at playback from USB than over a network. Nor (obviously) is a TV or BD player portable. If your media collection extends beyond JPEGs and MP3s into lossless audio rips and esoteric HD video formats, then a standalone player is a good investment.

Storage: You can, if you really want, store all your files on a plethora of USB drives, or on your PC, but it's best to get a NAS (Network Attached Storage) device for simplified sharing of your media across a network with



multiple players, such as one from Netgear's ReadyNAS range (pictured). These dedicated devices often offer RAID array file backup, and are managed via browser software. Storage capacity can be anything from 1TB to 12TB and beyond.

TOP 5 BLU-RAY/DVD BOX SETS


Camera Obscura: The Walerian Borowczyk Collection

Produced with the help of fans via a crowdfunding scheme, this celebration of the controversial filmmaker is one of the most astonishing BD sets ever made.

★★★★★


Game of Thrones: The Complete Fourth Season

Now in its fourth run, HBO's award-winning fantasy series continues to dazzle, as do the Blu-ray releases – the AV presentation here is superb, backed up by plenty of extras.

★★★★★


Vincent Price in Six Gothic Tales by Edgar Allen Poe

Limited to just 2,000 copies, this bumper boxset boasts feature-packed editions of six classic shockers starring the 'Merchant of Menace', four of which make their UK Blu-ray debut here.

★★★★★


The Avengers: The Complete Series Four

A combination of beautifully restored episodes and a vast array of supplementary features ensure that this rather pricey boxset is a must-own for fans of the cult '60s British TV series.

★★★★★



Twin Peaks: The Entire Mystery

Both seasons of the US cult TV series and the prequel flick ...*Fire Walk With Me* are given a fan-pleasing 10-disc BD release, sporting 7.1 DTS-HD audio and a treasure trove of bonus bits.


★★★★★

Top 10 SOUNDBARS & SOUNDBASES


All prices are approx & may have changed


- 


Canton DM75 → £450 ★★★★★
Bigger and bolder than the already excellent DM50 (which retails for £100 less), Canton's sturdily-built soundbase speaker lacks HDMI inputs but makes up for it with Bluetooth streaming and a brilliant 2.1-channel performance packing weight, scale and detail. Simplistic, understated design. HCC #243
- 

Monitor Audio ASB-2 → £1,000 ★★★★★
This premium proposition marries Monitor Audio's C-CAM drivers with AirPlay and DLNA music streaming. Performance is exemplary – powerful and polished in equal measure. HCC #229
- 


Yamaha YSP-2500 → £800 ★★★★★
An HDMI-switching 'sound projector' using Yamaha's Beam tech to craft impressive surround sonics from its drivers. Efficient sub, plenty of detailing and fun/useful app control. HCC #243
- 


Cambridge Audio TV5 → £300 ★★★★★
Twin 6.5in bass drivers lend the TV5's sound some decent low-end heft, but not to the detriment of the rest of the soundstage. An enjoyable, balanced listen. Easy to use. HCC #245
- 

Q Acoustics Media 4 → £400 ★★★★★
A no-nonsense offering from the speaker specialist, which ignores HDMI inputs and daft DSP modes in favour of creating a nuanced, solid 2.1 soundscape. HCC #238
- 

Philips HTL9100 → £600 ★★★★★
A soundbar/sub that incorporates two removable side speakers to allow it to become a wireless 5.1 system, this Philips is a neat proposition, and easy to install. HCC #238
- 

Pioneer SBX-N500 → £250 ★★★★★
£250 gets you this single-enclosure audio offering with welcome DLNA functionality, USB input, HDMI ARC output (but no input) and Bluetooth. Weighty, vibrant sound. HCC #238
- 

Yamaha SRT-1000 → £450 ★★★★★
A reasonably sleek soundbase with a thumping bass output, crisp highs, app control and Beam driver tech that strives hard to deliver a 5.1 experience. HCC #243
- 

Humax STE-1000BSW → £180 ★★★★★
A striking design and bargain price tag will get Humax's debut 'bar plenty of admirers. Performance is decent for the money, albeit lacking low-frequency finesse. HCC #238
- 

Samsung HW-7501 → £600 ★★★★★
Got a curved TV? Then you'll be interested in this curved soundbar from Samsung. Subwoofer and mid-range impress the most – high frequencies can sound shrill on occasion. HCC #244

TECH INFO: TV PLATFORMS



TV addicts – go free, or pay-to-view?:

The landscape of the UK television industry has changed hugely in the last decade. The analogue switch-off has created a competitive market in free-to-air platforms, while Sky and Virgin Media are squaring up to the likes of EE TV, Amazon Prime and Netflix. Deciding which service is right for you can be complex, and you may find your needs are best catered for by a combination.

Sky+HD: The long-running satcaster offers a plethora of HD channels, with content including recent movie releases, live sports and sought-after US shows. Hardware options include the 2TB dual-tuner PVR.

Virgin Media TiVo: The cable giant offers a three-tuner PVR (1TB) with intelligent TiVo recording tricks, catch-up apps (including Netflix and Spotify), and over 240 channels (depending on package). Premium Sky content can be added on a monthly basis.

Freeview: The common option when it comes to TVs and set-top boxes. Freeview offers 13 HD channels (depending on regional roll-out) plus SD and radio. No contract fee.

Freesat: Satellite service offering a similar – but not identical – channel lineup to Freeview, delivered to your HD flatscreen via a dish but without a subs cost. As with Freeview, budget-priced STBs are available.

YouView: This relatively new kid on the block integrates the UK's main catchup portals directly into a backwards EPG. Again, channels are broadly similar to Freeview and there's no contract. Humax (PVRs) and Sony (TVs) are leading the hardware charge.

Top 5 BACK-CATALOGUE BLU-RAYS



Thief: Limited Edition

Boasting a 4K restoration of the director's cut in addition to an exclusive hi-def presentation of the original theatrical version, this Blu-ray release of Michael Mann's stunning debut feature is an absolute steal.

★★★★★



The Killing

This Blu-ray release of Stanley Kubrick's third film represents incredible value for money. Not only do you get a 2K restoration of that superb crime thriller, but the extras include an HD version of his earlier film, *Killer's Kiss*!

★★★★★



Metropolis: Ultimate Collector's Edition

Limited to just 4,000 copies, this re-release takes Masters of Cinema's original Blu-ray and adds Giorgio Moroder's pop-tastic re-imagining of the film and two new documentaries.

★★★★★



The Wizard of Oz 3D

Delivering the best-looking version of the film to date (derived from a new 8K scan), this superb pack also squeezes in all the original extras and a 3D conversion that adds layers of fun to Dorothy's adventure.

★★★★★



The Day The Earth Caught Fire

The highlight of the BFI's 'Sci-Fi: Days of Wonder' festivities, this stunning Blu-ray restoration should introduce this underrated British disaster flick to the wider audience it deserves.

★★★★★

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TOP 5 PVRs

**Virgin Media TiVo, £subscription**

This triple-tuner PVR offers ultimate recording flexibility, useful features – you can undelete deleted shows! – and awesome TiVo functionality. A no brainer if you're in a cable area

★★★★★

**Sky+HD, £subscription**

Sky's channel choice is second-to-none and its twin tuner 2TB PVR is a perfect partner. The recent EPG tweak is welcome and Anytime (the push VOD service) is brilliant for catching up on new movies

★★★★★

**Panasonic DMR-HW220, £250**

Panasonic's PVR mixes a 1TB hard drive with its Smart Viera functionality and media streaming – so at £250 it's an absolute steal, regardless of the uninspired design

★★★★★

**Humax DTR-T2000, £180**

This second-gen 500GB YouView PVR benefits from some under-the-hood tweaks that make the time-shifting experience slicker than ever. Useful app control, but no home media playback offered.

★★★★★

**EE TV Smart Box £subscription**

This quad-tuner 1TB PVR, from the mobile/broadband corp, offers innovative Replay 24-hour channel recording and great Smart device streaming. Needs more catch-up though

★★★★★

TOP 5 HEADPHONES

**Sony MDR-HW700DS, £800**

Comfy cans supplied with an HDMI surround processor, enabling multichannel audio to be fed to a virtual 9.1-channel soundstage. The effect is superb – great for late-night listening

★★★★★

**Oppo PM-1, £1,100**

Audiophile-grade, using planar magnetic driver designs, and with a lush design and build. The sound quality of the PM-1s is superb, so while these are undoubtedly costly, buyers won't be disappointed

★★★★★

**Lindy Cromo NCX-100, £100**

A cost-effective domestic option and great for travelling, these noise-cancelling 'phones (which can also be used as a normal passive design) feature a pleasant, balanced sound

★★★★★

**PSB M4U1, £220**

Aimed at both home and on-the-move use (and supplied with a carry case and two cable options), the M4U1s offer solid bass response and impactful highs. Build quality is good, as is comfort

★★★★★

**AKG K550, £200**

The styling of these closed-back cans is reassuringly 'classic' and the sound signature is surprisingly open and spacious. Use them for movie watching and you'll enjoy a good sense of scale and weight

★★★★★

TOP 5 SYSTEMS

**Panasonic SC-BTT505, £600**

Two-way driver arrangements in these grown-up looking speakers (plus a dizzying range of features) make this a great purchase. Big, dynamic sound, with strong dialogue

★★★★★

**Samsung HT-H7750WM, £850**

The top-flight system from Samsung in 2014 uses tallboy speakers all around. Plenty of features here, and a fulsome 5.1 performance, but the build quality is a bit disappointing

★★★★★

**Harman/Kardon BDS470, £650**

Harman's 2.1 system eschews 'net TV and streaming features, but majors in heavyweight build quality and solid AV performance. We tested a 2.1 iteration – 5.1 is also available

★★★★★

**LG BH8220B, £650**

With its silver finish, this is a suitable one-box system to partner with LG's flatscreen TVs, with a commendable, if slightly lacking in HF finesse, sound. Additional features including CD-ripping to USB. Handy

★★★★★

**Panasonic SC-HTB570, £350**

A commendable slim-line 2.1 system that can also be clicked together to make a soundbar. The punchy wireless subwoofer does a lot of the work. Bluetooth music streaming is onboard

★★★★★

HOME CINEMA

Choice

→ IN THE NEXT ISSUE

The best B-movies on Blu-ray! From schlocky horror to classic '50s sci-fi and beyond
Taking control What a pro-grade solution can do for your cinema room
HDR Everything you need to know!

→ ON TEST

Pioneer S Series Dolby Atmos speakers
Q Acoustics 3000i 5.1 package
Epson EH-TW570 projector
Samsung BD-J7500 Blu-ray deck
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AV AVenger

The tech industry has a habit of showing **Steve May** things that he's then not allowed to write about. Sometimes ever. So once you've read this he'll have to shoot you

LET ME TELL you about embargoes. Essentially a gagging order, they're routinely disorged by companies in an attempt to control the flow of information that they give to journalists, usually so they can stage-manage product launches or coordinate marketing. Occasionally they're useful, allowing magazines like the one you're reading to get an early heads-up on new products and technologies. More often, though, they're pointless, irritating and dispensed with little real thought about the practical consequences. The first rule of any embargo is that someone (else) will break it.

This is a shame, as I'm in favour of a robust NDA. Signing a Non-Disclosure Agreement is akin to being given a free pass not to do any work. This is a major boon when you're on a foreign press trip, as it gives you time to escape from your hotel to explore wherever the hell you've been taken to, and to test-drive the bar without having to arrange words in a coherent fashion.

Before the internet came along and ruined everything, embargoes were luxurious, often stretching months into the distance to accommodate magazine lead times. The biggest problem came from trying to remember what it was you were asked not to write about, when you were finally asked to write about it. Halcyon days.

Today, things are more immediate. The challenge is trying to stop someone tweeting about something before the PR bods have even had time to slap their NDAs (rearrange for bonus joke) on the table.

To infinity and beyond

My all-time favourite embargo was levied by Sony. On a fact-finding, sashimi-gobbling press trip to Japan in 2012, I was given me-time with Crystal

LED, a new TV screen technology fresh from a fanfare debut at that year's International CES. The embargo was unusual in that it had no end point, and was all-encompassing. I was effectively silenced for all time, unable to ever report on what I was to see or where I was to see it – a military-grade embargo more befitting a UFO sighting than a fancy flatscreen.

Obviously, just by telling you this I've now broken that embargo, but I'm feeling slightly emboldened by the fact that Sony has probably sacked or moved everyone involved as part of its ongoing restructure. The embargo ninjas are doubtless packing PS4s in a warehouse somewhere. I also put the paranoia down to the fact that the Japanese major was going through a crisis of confidence at the time.

In an effort to distinguish itself from the Korean competition, Sony wanted its own proprietary TV technology. Crystal LED was/is/never will be a clever self-emissive system capable of wide colour and deep blacks. It predated HDR in some ways. The 55in prototype shown at CES boasted huge contrast levels and over 400 Nits of brightness. I eventually got to see more Crystal LED TVs (embargo broken) and talked to engineers about the science (embargo broken). Yet specific details must, for the time being at least, remain locked in my secret case file. Space precludes me from describing exactly what I saw, relate what I was told, or reveal what I thought (so embargo not really broken at all). Suffice to say later on the same trip, Noriaki Negishi, Sony's global head of TV at the time, summed up what we'd seen as 'the crazy idea of an engineer in our semiconductor division.'

I guess he didn't sign the same embargo ■

What other tech do you remember that never arrived?
Let us know: email letters@homecinemachoice.com

Steve May wishes he could embargo the use of the word 'groundbreaking' when used by tech companies to describe a Bluetooth speaker





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